Beutner, Marc (Ed.)

Book

Open educational resources - quality standards, implementation, sharing : EU-StORe, European Standards for Open Education and Open Learning Resources

Reference: (2016). Open educational resources - quality standards, implementation, sharing : EU-StORe, European Standards for Open Education and Open Learning Resources. Köln : Ingenious Knowledge GmbH.

EU-StORe
European Standards for Open Education and Open Learning Resources

Open Educational Resources –
Quality Standards, Implementation, Sharing and Use

Ed. Marc Beutner

Editor: Prof. Dr. Marc Beutner, University Paderborn

Ingenious Knowledge GmbH, Köln 2016
Gottfried-Hagen-Str. 60-62, 51105 Köln

……..
2

Table of Contents

Editorial

(Marc Beutner)

In this book we introduce the EU-StORe project and the quality criteria for the Open Educational Resources (OER) we designed.

These quality criteria are important for dealing with OER because it is not only about sharing and about using resources in Open Learning environments – it's about quality assurance for education. Especially in the field of vocational education, teachers and educators all over Europe are interested in innovative and easily available materials and resources. Moreover, they are all interested in getting high quality OER that are suitable for their learning groups. However, they are not interested in getting all possible files and courses which are freely available.

Therefore, there has to be a change in the strategy of how we all deal with OER. Collecting and sharing is not that useful if we are not able to distinguish between relevant, good pedagogical measures or resources and irrelevant and bad ones, which are of low quality and without any further information.

As Michael Scriven, one of the important researchers in evaluation, already said in 1986:

> *"Bad ist bad und good is good and it is the job of evaluators to decide which is which."*[1]

This means that there has to be someone who is examining OER and can determine the quality and usability. Users are helped by having the rating of experts to relay on. Nevertheless, there needs to be standards for the quality of the OER standardizes procedures for the evaluation of said. Here is where EU-StORe come in, providing criteria, a scoring tool and a platform which can guide teachers, educators and designer of OER in a really interesting and huge field. OER are important to future education in Europe and therefore this book

This book consist of three parts:

Part one provides information about Open Educational Resources, the project EU-StORe and the standards and rating criteria.

Part two focuses on the different partner countries in the EU-StORe project and their specific findings and results, as well as experiences.

The third part develops evaluation results and recommendations

1 Scriven 1986, p. 19.

I hope you enjoy the discussion on OER and get some helpful insights in the field.

Marc Beutner, Paderborn 2016

References

Scriven, M. (1986): New Frontiers in evaluation. Evaluation Practice, 7, 1986, p. 7-44.

Part I

OER and Quality in Education

1. The Importance of OER in European Education

(Marc Beutner / Jenifer Schneider)

In recent years the concept of OER – Open Educational Resources as well as the idea of openness in learning and teaching environments have attracted on-going attention.[1] This is due to support from European and international organisations like the Massachusetts Institute of Technology in America, which are pioneers of open learning structures in education, as well as UNESCO, OECD or national political organizations such as the German BMBF (Bundesministerium für Bildung und Forschung – Ministry of Education and Research)[2].

The educational environment and the current educational landscape in Europe are changing via new media and the impact of the internet in our daily lives.[3] Since around the mid to late eighties, the importance of the exchange of information through new media is growing[4] and for longer than a decade, the internet has maintained a solid position in our society as well as in our educational landscape.[5]

In the past, the population of Europe used the internet in a more or less passive way. People used the internet primarily for casual research. Currently, there is a growing intensive social exchange, with active design and knowledge sharing. The user's willingness to share on the web has never been higher.[6] At the same time with the increase of this willingness, the volume of material, media, and information of any type shared in this way is growing.

The educational sector[7] and the EU[8] recognise the potential of the internet, intending to use it to to serve a big knowledge community by a wide range of education platforms, forums, and blogs.

Open learning can plays a significant role in the CEDEFOP. A quick definition of open learning is: learning which provides flexibility in the choice of topic, the location, the tempo and/ or the method to the learner.[9]

In particular, Open Educational Resources, OER for short, comprises education material which can be used for learning, teaching, research, or other educational purposes. They can

1 Cf. Downes 2005.
2 Cf. BMBF 2016 http.://www.bmbf.de
3 Cf. e.g. Beutner / Pechuel 2013.
4 Cf. Esken 2014, p. 89ff.
5 Cf. Hilbert; López 2011, p. 60.ff.
cf. Leiner / Cerf / Clark / Kahn / Kleinrock / Lynch / Postel / Roberts / Wolff 1997.
cf. Kleinrock 2010, S. 26 ff.
6 Cf. Kerres / Rehm 2015, p. 33ff.
7 Cf. Bündnis freie Bildung 2015.
8 Cf. e.g. Open Education Europa 2015.
9 Cf. CEDEFOP 2008, S. 138.

be adapted, (re)used and redistributed freely, without constraints - or with very few constraints - related to copyrights.[10] Such open and easily accessible materials can be courses, lesson plans, presentations, books, handbooks, homework, questionnaires, class or lab activities, games, and simulations. Moreover, there can be tests, audio or video resources and much more available in digital format or physically, to which the access is free.

UNESCO defined the concept of Open Learning Resources for the first time in the year 2002, during the UNESCO Forum on the Impact of Open Courseware for Higher Education in Developing Countries, a UNESCO meeting in Paris. The Forum was convened to consider the potential, for developing countries, of the basis of the initiative to put course materials online for an open access, like the pioneers of the Massachusetts Institution of Technology (MIT) in the U.S.

UNESCO defines OER as

"teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. Open licensing is built within the existing framework of intellectual property rights as defined by relevant international conventions and respects the authorship of the work."[11]

Another definition comes from the European Commission, which describes OER in as follows:

"Digitised materials offered freely and openly for educators, students and self- learners to use and reuse for teaching, learning and research; it includes learning content, software tools to develop, use and distribute content, and implementation resources such as open licenses; OER also refers to accumulated digital assets that can be adjusted and which provide benefits without restricting the possibilities for others to enjoy them (Ibid.)."[12]

Simply put, the concept of OER describes any educational resources, digital or physical in nature, and materials that are openly available for use by educators, teachers, students and everyone who is interested in this kind of educational resource.

Some aspects about the history of OER

The history of OER movement is often said to have begun in the 90s, when Wayne Hodgins coined the term "learning object", which he defined as small instructional com-

10 Cf. D´Antoni / Savage (2009), p. 17.
11 Cf. UNESCO 2012.
12 EU 2015.

ponents that can be reused in different learning contexts"[13].

In 1998, David Wiley added the term "open content', which advanced the notion that the underlying principles of the Free and Open Source Software (FOSS) movement could be applied to content, and introduced the first widely adopted open license for content, the Open Publication License. The pioneer which fostered the idea of open content by sharing educational materials online and spreading massive open online courses (MOOCS) is the University of Massachusetts Institute of Technology (MIT). The University started the project "Open Courseware" (OCW) in the year 2001 and has still more than 20 international partner Universities, following the approach of sharing Open Educational Materials for any interested individual and regardless of enrollment in their courses and classes. One year later the approach of MIT inspired UNESCO to define OER for the first time. The definition was adopted in the conference report "Forum on the Impact of Open Courseware for Higher Education in Developing Countries" (2002). Openness is one of the main characteristics of OER and is simultaneously connected with Wiley's understanding of education and teaching:

"Openness is the sole means by which education is effected. If a teacher is not sharing what he or she knows, there is no education happening. […] In other words, is the teacher a successful sharer? If so, then the teacher is a successful educator. If attempts at sharing fail, then the teacher is a poor educator. Education is sharing. Education is about being open."[14]

The EU-StORe consortium promotes Wiley's understanding of teaching and sharing knowledge and tries to provide new opportunities for eLearning environments through the EU-StORe database and platform, which is one of the main project outcomes during the lifetime of the project eligibility. The importance of OER in European education begins with the questions about openness, the willingness to share and reuse educational materials. Therefore, the potential user must understand the benefits of using OER for the teaching environment, the learners, teachers, and trainers. One main advantage of OER is that it can offer drastic savings to the costs of education, especially for developing and creating materials. At the same time students and learners, who might have not the opportunity and financial resources to afford textbooks, course materials, or educational videos can now have the same opportunities as wealthier students to study without these financial restrictions. The students also gain from the high quality of more than 750 free online courses from different prestigious universities around the globe such as the pioneers from MIT or Yale University to name a few.[15] At the same time teachers, educators, or trainers can gain from the wide variety of topics within OER to prepare their classes, courses, and materials. It is important to note that how OER can be used depends on the type of license granted by the author. The conceptual map by Marguiles (2005) clustered Open Educational Resources in three different fields: tools, content and implementation.

13 Wiley 2000, p.3
14 Wiley 2010, p. 16.
15 Chae 2016.

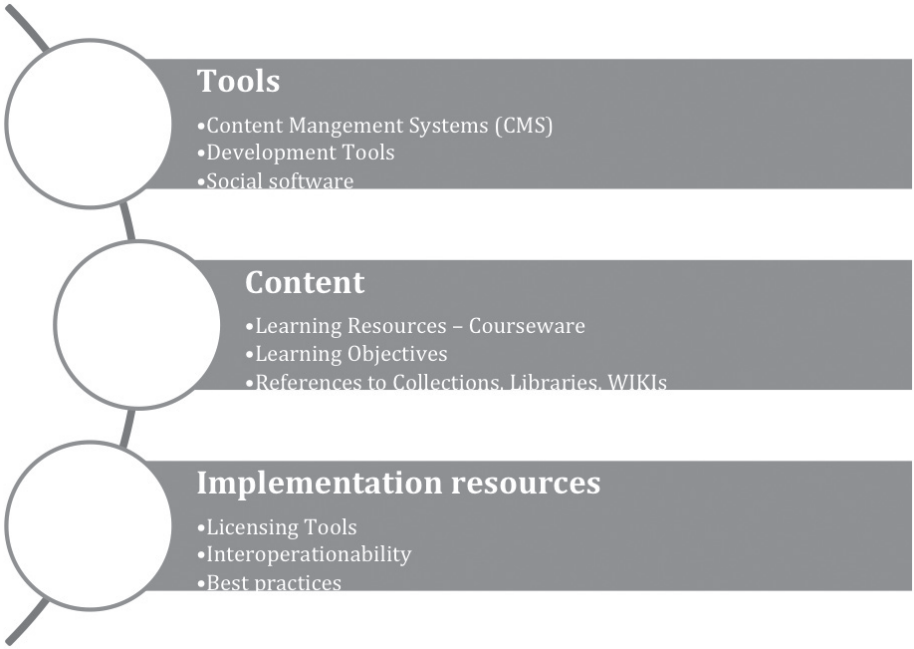


Figure 1: OER with regard to the ideas of Marguiles *2005*[16]

One big impact on the usability and sharing of OER is the field "implementation resources". Licensing tools like Creative Commons and the GNU Free Documentation License support the idea of free sharing resources and minimize the problem of legal restrictions. Open licensing provides a way of controlled sharing with some rights reserved to the author and have the benefit of introducing certainty and clarity into the process of obtaining permission to use the work of others.[17] It reduces the administrative burden regarding rights.

Creative Commons is a nonprofit organization that enables sharing and use of creativity and knowledge through free legal tools.[18] The author of OER can decide between six different stages of licenses which can allow for a variety of uses, such as allowing commercial use or rewriting of the document or disallowing these things.

16 Cf. OECD 2007.
17 Cf. Hylén 2006, p. 3.
18 Cf. Creative Commons 2016.

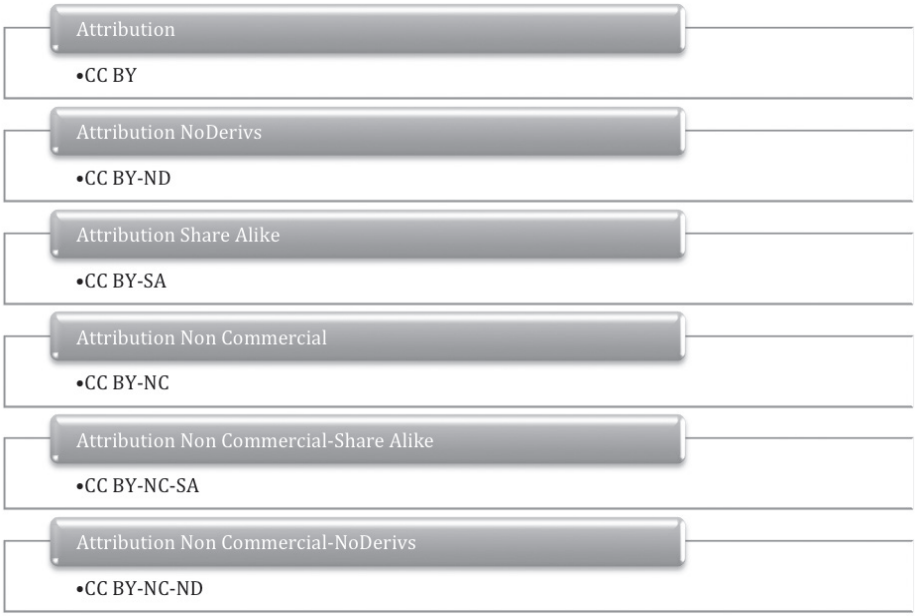


Figure 2: Creative Commons, overview of the six different licenses (Status Feb. 2016)[19]

References

Alby, T. (2007): Web 2.0: Konzepte, Anwendungen, Technologien. 2nd Ed., München 2007.

Beutner, M. / Pechuel, R. (2013): Task based authentic Serious Games in vocational and further education on basis of the PVEC -Paderborn Vocational Education Concept for elearning: The Copy Job - A Bid Comparison of Suppliers. In: Bastiaens, T. / Marks, G. (Eds.), Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2013 (pp. 931-939). Chesapeake, VA: AACE. On the internet: http://www.editlib.org/p/114971/, 15.06.2016.

BMBF (2016): Bundesministerium für Bildung und Forschung. On the internet: http.://www.bmbf.de, 15.06.2016.

Bündnis freie Bildung (2015): Positionspapier: Der Weg zur Stärkung freier Bildungsmaterialien. On the internet: http://buendnis-freie-bildung.de/positionspapier-

19 Cf. Creative Commons 2016.

oer/, 15.06.2016.

CEDEFOP (2008): Open Learning. Terminology of European education and training policy CEDEFOP 2008.

Chae, B. (2016): Course: How to Use Open Educational Resources. On the internet: https://training.instructure.com/courses/1276118/pages/what-are-the-benefits-in-using-oer, June 2016.

Creative Commons (2016): About Creative Commons. On the internet: http://creativecommons.org/about, 01.06.2016.

D´Antoni, S. / Savage, C. (2009): Open Educational Resources. Conversation in Cyberspace. 2009.

Downes, S. (2006): Models for Sustainable Open Educational Resources. Interdisciplinary Journal of Knowledge and Learning Objects 3 29-44 Published in Journal: Feb 27, 2007. On the Internet: http://www.downes.ca/post/33401, 15.06.2016.

Esken (2014): Ohne schnelles Internet verpasst der ländliche Raum den Anschluss. On the internet: http://www.saskiaesken.de/aktuelle-artikel/saskia-esken-ohne-schnelles-internet-verpasst-der-laendliche-raum-den-anschluss, 15.06.2016.

EU (2015): Open educational resources. On the internet: http://ec.europa.eu/education/ects/users-guide/glossary_en.htm#open-educational-resources, 28.10.2015.

Hylén, J. (2006): Open Educational Resources: Opportunities and Challenges. OECD. Paris 2006. On the internet: https://www.oecd.org/edu/ceri/37351085.pdf, 15.06.2016.

Hilbert, M. / Lopez, P. (2011): The world´s Technological Capacity to Store, Communicate, and Compute Information. Science 332, 60 (2011), DOI: 10.1126/science.1200970. On the Internet: http://www.uvm.edu/pdodds/files/papers/others/2011/hilbert2011a.pdf, 15.06.2016.

Kerres, M. / Rehm, M. (2015): The Creation and Distribution of Social Capital in Twitter Conversations among Teachers – A Longitudinal Ego-Network Approach. In XXXV. Sunbelt Social Networks Conference . 06/2015, Brighton, UK.

Kilian, T. / Hass, B. / Walsh, G. (2015): Web 2.0. Neue Perspektiven für Marketing und Medien. 3. Ed., Berlin, Heidelberg, New York 2015.

Kleinrock, L. (2010): an early history of the internet. IEEE Communications Magazine. 48(8), p. 26-36.

Leiner, B. / Cerf, V. G. / Clark D. D. /Kahn, R. E. / Kleinrock, L. / Lynch, D. C. / Postel, J. / Roberts, L. G. / Wolff, S. (1997): Brief History of the Internet. On the internet: http://www.internetsociety.org/internet/what-internet/history-internet/brief-history-internet, 15.06.2016.

OECD (2007): IMHE Info, Programme on Institutional Management in Higher Education, July 2007.

UNESCO (2012): Paris OER Declaration. On the internet: http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris%20OER%20Declaration_01.pdf, 01.06.2016.

Wiley, D. (2000): Defining the ´Open´ in open Content. On the internet: http://www.opencontent.org/definition/, 01.06.2016.

Wiley, D. (2010): Openness as Catalyst for an educational reformation. EDUCAUSE review, 45(4). On the internet: http://www.educause.edu/ero/article/openness-catalyst-educational-reformation. 01.06.2016.

2. The EU-StORe Project

(Marc Beutner / Jennifer Schneider)

The project "EU-StORe" – European Standards for Open Education and Open Learning Resources – is an international consortium within the ERASMUS+ Project with a focus on Vocational Education and Training – VET and a duration of 24 months. The eligibility period of the project ends at the end of August 2016.

The main aim of the project is to create and implement a European inventory of open learning resources to analyse open learning scenarios and open learning resources, and to create shared and common European standards and guidelines for open learning. The consortium invites national participants to two different survey evaluations to generate statistical statements about the Acceptance of OER, the user behavior of OER as well as the motivation to share, (re)use and develop OER. This evaluation results influence the EU-StORe Book just like the policy paper and the other project outcomes and results. At the end of the project life time all outcomes are available as downloads at the project website:

https://www.eustore.eduproject.eu

Printed versions of flyers, brochures etc. can be ordered from the partner consortium, even in national languages.

Open education and open learning resources are actually one of the main educational topics in the EU. In the vision paper on open education 2030, J. M. Pawlowski stated that education is distributed on a global market. Therefore, he argued, it is crucial for Europe to engage a broad community in cross-border collaboration to be successful in this field.

In the vision paper ´Open Education 2030´, Pawlowski comes up with six recommendations:[20]

1. to create an inventory of OER and OEP
2. to integrate existing communities
3. to integrate curricula
4. to create regional networks
5. to create global outreach programs
6. to support open education policy building!

One goal is online learning resources and open learning should be provided all over Europe for free in a huge store. While this presents a real opportunity to make education available for a broad European group of interested learners, teachers, and trainers, there is no quality

20 Cf. Pawlowski, p. 78.

assurance of the courses, learning resources, and open measures available at present, potentially undermining this opportunity.

2.1 Aims and objectives of EU-StORe

The European project EU-StORe fosters the ideal that online learning resources and open learning should be provided all over Europe for free in a massive store. Although it is a big chance to make education available to a broad European group of interested learners, teachers, and trainers, the gap of quality standards and quality assurance of courses, learning resources, and open measures makes it risky to use pedagogical and educational materials with clear conscience without being sure of those resources. This is where the European project EU-StORe comes in. Based on the recommendations of Pawlowski and the EU, EU-StORe builds an inventory of online learning resources. The consortium analysed these materials and courses and created standards for open learning activities, which provide a high quality standard.

This offers a basis to develop guidelines and standards that can be used

(a) to create open learning scenarios in the future and

(b) to rate existing open learning activities and resources.

To integrate this information in the European learning community, the standards are provided on an online platform where the inventory is also accessible. At the same time this acts as a basis to foster curricular design and the work of regional networks. The guidelines and standards are combined with policy papers, which engage ministries, the European Commission, and multipliers in the field of education in different European countries in the process of implementing the standards.

More information about the project, it aims and the results are available at the project website:[21] http://eustore.eduproject.eu and on our social network channels Twitter and Facebook.

2.2 EU-StORe consortium

The European Project EU-StORe consists of institutions across six EU countries, namely Germany, Great Britain, Ireland, Italy, Romania and Malta. The consortium comprises four universities, a technical partner, a small to medium sized-enterprise with a focus on

21 Cf. EU-StORe 2016.

education, and a research and development institute. Every national partner takes a specific expert role and contributes to successful project results and the holistic work on OER.

The following descriptions of the partner organisations will offer a short insight into the structure of the consortium and their expert position, which increases the success of the EU-StORe project.

Lead organisation

(P1) - University of Lucian Blaga University of Sibiu

The lead organization, the University of Lucian Blaga University of Sibiu, Romania, is a classical university that includes a total of nine faculties with more than 600 teachers in areas such as Economics, Philology and Arts, Social and Human Sciences, Medicine, Law and Educational Sciences, Theology, Engineering, Agricultural Science, and Sciences. The ranges of competences of the involved staff are very wide, with more than 100 existing faculty specializations.

The team involved in the Erasmus + project, consists of professors and associate professors from Educational Sciences (Teachers training), and the Industrial Management Department. Professors also participated in others Erasmus+ projects, Leonardo, Comenius and Grundtvig projects or Sectoral Operational Programme Human Resources Development (POS DRU) etc. with a wide experience in this filed.

The university has hosted a Distance Learning Department since 1998. Considerable experience has been acquired both on an institutional level and as well as by individuals involved in it. The students enrolled in the distance education programs benefit from modern facilities, a fact that accounts for the high quality of their education and training. Professors have also received training in order to teach eLearning systems.

Psychologists, pedagogues, educators, managers and HR specialists work in the Educational Sciences department. The objectives of our department are:

- designing, organization and coordination of initial training for teaching career at theoretical, methodological and practical level;
- designing, organization and coordination of training for teachers in secondary education, in accordance to actual legislation (periodical, specialized in pedagogical and didactical issues; organizing and conducting examinations for professional degree);
- promotion of theoretical and applied educational research, based on our own projects or in cooperation with other institutional partners;

- development of courses, synthesis, support materials, methodological guides, educational projects, academic programs required in the context of initial and continuous training of teachers;
- designing, organization and coordination of training regarding trainers specialized programs (in collaboration with the institutions concerned).

Partner organisations

(P2) - University of Paderborn

The chair Wirtschaftspädagogik II of Prof. Dr. Marc Beutner and his scientific assistants is settled at the department 5: Business and Human Resource Education at the University of Paderborn. The department is one of the six departments within the Faculty for Business Administration, Economics and Business Computing. The University of Paderborn comprises more than 2.300 staff and more than 20.000 students. Courses for trainee teachers are offered for those embarking on a teaching career specialising in the fields of business and economics. The department also undertakes research and project work to help sustain its teaching activities. Research fields include issues of work and career options for students with emphasis on vocational education and training (VET) and this partner offers experience and a keen interest in how best to prepare young people for work and a career. It educates students in the first phase (university phase) of teacher education for the fields of vocational education and training in Germany as well as students in the fields of business administration and economics.

The chair is involved in vocational teacher education and connects its teaching work to research and project work to sustain its activities. The department is responsible for business education at the Faculty of Business Administration and Economics. Its research field is didactics, evaluation and vocational education and training (VET).

The EU-StORe project was developed by Prof. Dr. Marc Beutner and his staff members Mr. Sebastian Rohde, who is working on his PHD thesis in the field of subjective theories and values in vocational education and Mrs. Jennifer Schneider, who is working on her PHD thesis in the field of OER and the motivation to share as well.

Prof. Dr. Marc Beutner is an expert on vocational education and teacher education in Germany and his work crosses several domains including career orientation, VET, new teaching and learning methods, e-learning and situated learning, didactics, teacher training, curriculum theory and development. At the University of Paderborn he teaches and trains future teachers.

His research work and areas of interest are:

- Open Learning Resources and Open Education in the vocational field
- Career orientation and vocational orientation
- Closer cooperation in VET / project operation days / educational networks
- Teaching methodology and curriculum development (Learning field approach versus subject classification, for example, diagnostic, procedural, substantive, skill-related aspects)
- Evaluation in Vocational Education: summative and formative evaluation and Evaluation Research
- eLearning / mLearning
- Work and Management Education
- European education projects, and Comparative Economic Education (e.g. COR-VET, AGnovel, EVive, SEEL, SELFIE, YES, UMW, NetBox, EBBD, BOBCAT, MOJO, NetEnquiry, InBig, InLab, etc.)

(P3) – Ingenious Knowledge

Ingenious Knowledge is a young SME, which has been active in adult education, working in close partnerships with universities and other education institutions. The company is currently involved in various projects such as running career orientation camps for schools and developing new e-learning methods for large companies. It also runs teacher training courses on a European level with a focus on IT-related knowledge such as internet security, game-based learning, and media competences. Ingenious Knowledge has a heavy focus on IT-solutions that innovate learning processes because the company believes that new generations grow up in a different world that requires new approaches to education.

Vocational education is at the heart of the company's activities. Ingenious Knowledge has been active in researching and developing new game-based learning approaches for vocational training and further education. In the EU-StORe project the company provided state of the art survey tools and the experience of working with schools and companies in vocational education on a European level. Ingenious Knowledge created the technical implementation of the OER database and the rating tool.

With its active role in innovating education the company is in a good position to ensure that the project results can be used by education partners. The OER database will be a useful tool for many different types of education providers and Ingenious Knowledge is in a good position to present it at conferences, in teacher training classes and through scientific publications.

(P4) – European Learning Network Ltd

European Learning Network Ltd (ELN) is an organization that prides itself in its 3E concept to embrace diversity, enhance knowledge and empower people. As a private SME with social enterprise principles, ELN's emphasis for the 21st Century is to develop citizens' skills that address current issues related to economic downturns and to offer learners' authentic learning experiences. This dovetails and complements innovation and realistic learning experiences as envisaged by President Barosso (2010) and EU Commission, Entrepreneurship Education (2011) respectively.

Furthermore, our emphasis and aspirations on gender equality matches the collaborative entrepreneurship mentality and competences that the EU commissions seeks to achieve in its 2020 Strategy. A knowledge based EU with all its citizens having equal opportunities is likely to have a competitive advantage on the world stage. ELN is already working on such goals through its various LLPs supported by the previous round of EU programmes such as Leonardo and Grundtvig.

(P5) – Meath Community Rural & Social Development Partnership Ltd.

Meath Community Rural & Social Development Partnership Ltd. (MCRSDP) is the county-wide community organisation responsible for the design and implementation of local, rural and community development programmes across our region. We specialise in building the capacity of local communities through the design and implementation of a range of projects and programmes tackling persistent incidence of exclusion and disadvantage. We are a not-for-profit organisation with charitable status and employ 20 full-time staff.

The partner is responsible for the implementation of the LEADER programme in his territory, and focus on improving the economic, social and cultural quality of life through the creation of sustainable rural communities in County Meath. We provide the following services and supports to our target groups:

- Capital investment, training opportunities and mentoring support for the development and expansion of micro-enterprises
- Confidential online and face-to-face career coaching and mentoring service for jobseekers of all ages
- Targeted training and HR support to local employers and employees
- Up-skilling opportunities to low-skilled workers and jobseekers of all ages through work-placement programmes
- Industry-focussed training opportunities for jobseekers in the areas of e-business, eco-tourism, artisan food, creative industries, renewable energy, tourism and hospitality etc.
- Basic training programmes for lone parents, early school leavers, older people,

migrants and low income farm families

Meath Partnership has extensive experience of EU programmes gained through initiatives like the EU Lifelong Learning Programme, EQUAL Community Initiative and INTERREG.

(P6) – Libera Università Maria Ss. Assunta

LUMSA University was founded in Rome in 1939 and it is characterized by its openness to the idea of universal human citizenship. LUMSA is one of the most important non-state universities of central Italy, with about 9000 students and 800 teachers and professors. It has three Faculties situated in Rome city center, and other branches operating in Palermo and Taranto.

The university is located in one of the most beautiful and historically rich areas of Rome. In particular, LUMSA is committed to:

- promoting scientific research and studies intended to advance the common good
- providing young people with skills which will help them in their future professions and in fulfilling their wider social responsibilities
- promoting lifelong education and supporting mature students
- providing financial support towards the cost of tuition fees and research grants for students depending on the particular circumstances
- ensuring, in accordance with the values of the University and those upheld in the Italian Constitution, gender equality and equal opportunities between men and women. LUMSA rejects any kind of discrimination, whether direct or indirect, and it opposes all forms of coercion and violence.

LUMSA strives to promote a holistic education of the individuals and for this reason it devotes specific attention to the professional and human development of its students' education through the employment of several and continuous tutoring services, and teaching procedures designed to give full expression to students' right to be engaged in study.

LUMSA University offers four main subject areas of teaching and research activities: Economics, Humanities, Languages, and Law. Within the Humanities, the School of Education has one of the currently two available 5-years higher education courses for primary and pre-primary teacher education in the Lazio region of Italy.

LUMSA pays great attention to new professional profiles and requirements and to the emerging needs of the world of work, and it is constantly engaged in carrying out research activities at national and international level. These activities positively influence teaching practices. In this way, the university strives to make a constructive contribution to meeting

individual needs when it comes to qualifications and skills and to responding to the increasing requirements of specialisation, which are even more evident in today's complex society.

Quality assurance procedures in LUMSA are implemented in a two-tiers design:

1. on the teaching practices, with an online system of evaluation of courses, professors, methodologies and learning experiences offered to students
2. on the research activities, with a competition-based funds attribution and monitoring on projects development and outcomes.

In 2015, LUMSA voluntarily participated to the first trials of ANVUR external evaluation on quality assurance practices both for teaching practices and research activities.

LUMSA University was awarded with the ECTS Label in 2009 and the DS Label in 2010.

(P7) – University of Malta

Dr. Philip Bonanno is an expert in the field of OER teaching at the University of Malta. The University of Malta traces its origins to the founding of the Collegium Melitense by the Jesuits in 1592. The College was raised to University status by Grand Master Manoel Pinto de Fonseca in 1769. Situated at Msida, it is the highest teaching institution of the State by which it is mainly financed and is open to all those who have the requisite qualifications. Over the past few years, the University has reviewed its structures in order to be in line with the Bologna process. Conscious of its public role, the University strives to create courses which are relevant and timely in response to the national, regional and international needs. The supreme governing bodies of the University are the Council and the Senate. There are over 10,000 students including over 750 foreign/exchange students from nearly 80 different countries, following full-time or part-time degree and diploma courses. The University has been involved as coordinator and partner in numerous EU-funded projects under various Programmes including FP5/6/7, Lifelong Learning Programme, Culture 2000, Tempus and various other international and regional programmes and initiatives. The University is also represented in a number of European and international University networks and groups.

References

Pawlowski, J. M. (2013): Global Open Education: A Roadmap for Internationalization.

In: Open Education 2030. Contribution to the JRC-IPTS Call for Vision Papers. Part I: Lifelong Learning. Work in progress: 9 April 2013. On the internet: https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCYQFjAAahUKEwj1iYXTspDHAhVJ8HIKHUZkBuA&url=http%3A%2F%2Fopeneducationeuropa.eu%2Fmt%2Fdownload%2Ffile%2Ffid%2F26789&ei=0DHBVfXhNMngywPGyJmADg&usg=AFQjCNFl-TMlQEFsLxZwlZe4xvj5W3zw9A&sig2=At2sSL__oVavgXr3L9h4Jw&bvm=bv.99261572,d.bGQ&cad=rja, Stand: 01.07.2015.

EU-StORe (2016): EU-StORe Website. http://eustore.eduproject.eu, 01.06.2016

3. The OER Quality Standards

(Marc Beutner / Jennifer Schneider)

Open educational resources discussions often revolve around the topics of how to find and access them, how to share them, how to use them, and how to distribute them. By the year 2005 Foote defined "four freedoms:

1. Freedom to copy
2. Freedom to modify
3. Freedom to redistribute
4. Freedom to redistribute modified versions."

The OECD said OER includes: (a) learning content, (b) tools and (c) implementation resources.[22] Additional positive aspects of OER are:[23]

- Saving time
- Avoiding duplicate developments
- Simple material management
- Idealistic reasons as:
  (d1) free availability of materials for all interested parties
  (d2) improvement of equal opportunities in education.

The primary goal is to create a massive online store to provide open learning resources for free and with open licenses, which can be accessed all over Europe, and eventually worldwide.

For teachers the attraction of open educational resources lies in being able to select teaching materials according to their own needs from different sources, to use them, combine them with other OER or own materials as well as the opportunities of further use.

However there are also a lot of educators who either unaware of OER or have minimal exposure. Those who have exposure to OER can be cautious due to lack of information about the sources and quality of the OER available currently on the internet. They also have no way of judging the distributing platforms and the providers of the content.

Though there is great opportunity to make OER available to a broad European audience of learners and educators, there is currently no way to assure the quality of the courses, learning resources, and platforms. It is important to provide standards so that educators can know which materials suit the needs of their particular learners.

22 Cf. OECD 2007, p. 30-31
23 See e-teaching.org 2016.

In the past experts were responsible for designing curriculum, courses, and learning materials. Currently, with so much unvetted information available, there is a need to create a system to provide guidance on using the available information. This can be particularly helpful to disadvantaged groups, as they are likely to lack the tools to be able to easily determine the relative value of different learning materials. Especially disadvantaged and marginalised groups in European society can suffer from misleading information due to the fact that they face lots of challenges. For example, some have fewer chances to identify problems and quality deficits of provided open educational resources themselves.

Creating these guidelines and indexing the learning material is a huge challenge for the field of OER. This is a massive undertaking which requires time and resources for which the OER movement hasn't been able to offer truly satisfactory solutions until today.[24]

The task of quality assurance is becoming increasingly difficult. A change in dealing with pedagogical materials can be detected and through the explosive growth of available open and protected content, the analysis of the quality becomes more complicated for teachers and educators. A similar point was raised by Neil Butcher and the Commonwealth of Learning together with the UNESCO in 2015 when they stated:

"This task of assuring quality has been complicated by the explosion of available content (both open and proprietary). This is both a blessing, as it reduces the likelihood of needing to develop new content, and a curse, as it demands higher level skills in information searching, selection, adaptation, and evaluation."[25]

Butcher also comes up with four aspects concerning required changes in policy:

"Provision in policy of clarity on IPR and copyright"[26]

"Human resource policy guidelines"[27]

"ICT policy guidelines"

"Materials development and quality assurance policy guidelines"[28]

The project EU-StORe considers these aspects but moreover, it envisages the development of standards for such high quality online learning resources. Therefore, it is necessary to analyze open learning scenarios and open learning resources to create the shared common European standards and guidelines for open learning. It was crucial for the EU-StORe ap-

24 See a similar discussion at e-teaching.org 2016.
25 Butcher 2015, p.12.
26 Butcher 2015, p.16.
27 Butcher 2015, p.16.
28 Butcher 2015, p.17.

proach to create an Open Education inventory and to have a closer look at existing OER. Rating criteria for OER will be derived from the inventory and the standards created in EU-StORe. These criteria are the basis for an OER rating by experts and users.

The focus of EU-StORe activities in this field is to analyze the results of the different partner research results in the project and to create common rating criteria.

After the second partner meeting, which took place at the University of Paderborn, the consortium presented their results of the national desktop research regarding existing OER criteria, quality criteria of teaching and learning materials as well as scientific recommendations of the use of the internet as a new media to share, produce and collect knowledge.

In sum, the consortium analyzed more than 170 OER. Furthermore, to assure the correctness and acceptance of the identified quality criteria the ´Open educational quality standards survey´ of EU-StORe confirmed the results, too.

It is important to distinguish between two types of criteria:

the descriptive criteria provide helpful data about the OER for the user and

the rating criteria provide an evaluation of the quality of the OER.

Concerning the descriptive criteria, it was obvious for the consortium that there are several aspects needed for a user of the database, e.g. a teacher, a trainer or an educator, to get a first impression about the OER. This impression is helpful to decide if the OER is useful for a specific learning environment and the specific situation of the user.

Thus, the descriptive criteria make the search for suitable OER simpler. Overall, there are 22 descriptive criteria which we call the general rating criteria. They focus on the aims and topics of the OER as well as on organizational and structural aspects. Moreover, they also provide an insight into the licenses to make sure that already at the beginning the user is aware of the sort of OER that is currently in focus.

The table on the next page provides you with a summary of these general criteria:

Rating Criteria for high quality OER	
General rating information	Name of the OER Language of the OER Topic of the OER Aims / Competences addressed Prerequisites Content description Proposed time for learning activity Source / URL Date of access License License model for the OER platform / Terms and conditions of usage Login required Rationale about the OER Design Focus of OER Type of OER Mode of assessment used by OER if it exists, type of certification Institution / Provider of the OER Type of organization Status Developer / Creator of the OER

Table 1: The descriptive general EU-StORe rating criteria / overview criteria

To make the use of these criteria easier the EU-StORe team decided to provide some additional information. Therefore, we created comments to each of these criteria shown on the following pages:

(a) Name of the OER:

A clear and focussed name of the OER allows the user to get a first rough idea about the OER and helps to skip over a range of OER very quickly.

(b) Language of the OER:

Especially if the users are from different countries this will be a very helpful criterion. Each user is often only interested in OER of his or her own mother tongue. Sometimes it can be interesting to search for OER in other languages as well, especially when there are no OER in one's own language or if this OER is especially needed for language learning.

(c) Topic of the OER

The thematic aspect of OER is crucial. Most of the teachers, trainers and educators who use the database are searching concerning a specific topic. Moreover,, the topic is a general

heading directly related to the content of the OER. The topic is one of the main pedagogical and didactical aspects in a huge range of educational models and is well-known to the users.

(d) Aims / Competences addressed

Aims are a hint to learning objectives and general goals of education and what should be addressed with the OER. The users often focus on competences. For example, there can be subject related competences, social competences, personal or self-related competences, media competences, methodological competences, language competences, communication competences or technical competences to name a few. Most OER focus only some of them and it is good to know for which use they are focused. Also, the aims of lessons and education is one of the main pedagogical and didactical aspects and the users of the database are used to looking at these aspects.

(e) Prerequisites

How a topic is taught changes with the target group. This is because each learner brings different prior knowledge and experience. Understanding the prerequisites is important to create an adequate pedagogical setting.

(f) Content description

A good content description explains clearly what is addressed by the topic. Moreover it is a good indication of the conception of the lessons. Here, a short text description should provide a general insight and should offer the main characteristics of the topic addressed in the OER. The concrete thematic view is provided with the content description. This is also one of the main pedagogical and didactical aspects.

(g) Proposed time for learning activity

For organizational reasons it is important for the database users to get information about the duration of the OER use. They need to know how long it usually takes to work with the resource in lessons. This is helpful for calculating teaching and learning time and embedding the OER in a real learning environment and a specific scenario.

(h) Source / URL

Due to the fact, that the EU-StORe database is a rating platform and not a place to store OER it is important for the user to get a link to the OER. This enables the users to download the OER or to use it where it is provided. Moreover, it provides a connection to the original provider of the OER.

(i) Date of access

Sometimes it is good to know how old an OER really is, because there may have been changes since that point of time. The date of access offers information, when the OER was found, accessed and inserted into the database- This provides a first impression how long this OER has already existed.

(i) License

Concerning the license which goes along with an OER there can be very typical ones or sometimes this aspect is just unknown. The Creative Commons license is very popular and can be found in a variety of different license subtypes. Also general right or copy rights can be addressed under this criterion.

(j) License model for the OER platform / Terms and conditions of usage

In addition to the license criterion the focus on the license model for the OER platform helps users understand if the OER provider offers additional detailed information on terms and conditions of usage. It can be answered with yes or no.

(k) Login required

Many users don't want to have to create logins at lots of different sites, providing a large range of entities their personal login information. Inclusion of this information can make the selection process quicker and more convenient for the users.

(l) Rationale of the OER Design

Many OER exist without any further comment. However, some kind of commenting giving an insight into the thought process and aims of the creator of the OER can be very helpful for users choosing OER. Understanding the context of the design of the OER allows the user to find a better fit among the materials available.

(m) Focus of the OER

The focus of the OER can be determined by knowing for whom it was originally created. Material can be divided into teacher material, learner material, and enterprise material. If the user knows the focus of the material it becomes easier to decide if the content meets the user's needs or not.

(n) Type of OER

In addition to the focus of the OER also the type of OER is important. It provides an over-

view about what sort of material is provided with this OER. There is a huge range of possible materials, like course material, worksheets, audio material, video material, MOOCs, didactical concepts, organizational concepts, organizational templates, tests etc.

(o) Mode of assessment used by OER

If there is testing or assessments as part of the OER it is helpful to know, which mode ot assessment is used by the OER because often not all assessments are suitable for specific situations of the database user. For example, some modes of assessment are not acceptable for purposes of accreditation or the requirements of a particular curriculum. This can be an organizational criterion as well. Typical modes of assessment used by OER include tests/exams, open ended questions, performance levels/points, peer feedback, group discussion, and presentations. It's worth noting that not all OER content includes assessment material, and some users won't require it.

(p) Certification

Some OER also include certificates or badges for users that want them. This is often the case in eLearning scenarios or in MOOCs. Such a certificate can be an incentive or a motivation to use the OER. Therefore, a potential user should know about it.

(q) Institution / Provider of the OER

It is important to attribute the creator of the OER. Users should know who generated and shaped the OER. This can be a person or institution.

(r) Type of organization

It is useful for the user to know what type of organization provides the OER content. The provider can be a commercial organization, a governmental organization, an NGO or other types.

(r) Status of the organization

The status of the organization providing the material can be helpful to decide whether the OER is a good fit or not. Examples of such a status are private, public or a consortium / a partnership. Sometimes no information is available.

(s) Developer / Creator of the OER

In some cases the developer and creator of an OER is different than the provider. It is im-

portant to correctly attributein a correct way this information.

In some cases, it can be useful to integrate some keywords that describe the OER. This can be helpful for filtering the searches.

In addition to all these descriptive criteria, which are helpful for the selection of an OER, the core rating criteria provides the user with an overview concerning the quality of the selected OER. Core criteria are the following:

Core Rating Criteria
rights and duties (concerning the OER)
technical support (concerning the OER)
Aims and focus of the OER
structural information (concerning the OER)
Materials of the OER
Usability of the OER
Content of the OER
Media used in the OER
Target groups of the OER
Sustainability and sponsoring of the OER
Community and communication aspects (concerning the OER)

Table 2: The core rating criteria of EU-StORe – a quality focus

All of these quality criteria have more detailed subcriteria.

The quality criterion of *rights and duties* focusses on the two aspects of which usage rights

are granted to the user and how transparent the given rights are. High quality OER offer a range of rights that should be clearly visible and understandable. The following table shows the sub criteria, which refer to the rights and duties criterion:

Rating Criteria for high quality OER	
Rights and duties	Allows proliferation of modified materials Allows sharing and adapting of the OER Allows commercial use of the materials Allows private use of the materials Allows educational use of the materials Transparency of the rights and duties Allows modification of teaching and learning materials Allows integration and use of the materials in a class / course

Table 3: The core rating criteria of EU-StORe – Sub criteria of ´Rights and duties´

In addition, *technical support* should be detailed. Good quality technical support means offering more opportunities for research, feedback and a broader range of information. The quality of the programming and the technical system is mentioned here as well.

Rating Criteria for high quality OER	
Technical support	Allows user to search information and materials Allows categorization of the information and materials Allows feedback and help about the materials Allows information about the users (number of users, institutions of users, login, ...) Allows information feedback from other users (comments, rating, additional documents, ...) Allows possible database search strategies and possible database reports Quality of the database / content management system Quality of FAQs Provides eLearning support

Table 4: The core rating criteria of EU-StORe – Sub criteria of ´Technical support´

The *aims* and objectives which were only described in the overview criteria so far are also an indicator for quality. High quality OER provide information about aims and objectives, Moreover, the aims are clear and operational. If OER are able to focus in detail on a specific competence this can be as challenging an qualitative excellent than addressing a broad variety of competences in one OER. Therefore, also this criterion needs several sub criteria:

Rating Criteria for high quality OER	
Aims and focus of the OER	Provides information about the practical use of the materials Clear aims Addresses a range of competences with the materials Quality of addressing competences with the materials

Table 5: The core rating criteria of EU-StORe – Sub criteria of ´Aims and focus of the OER´

Often *structural information* are crucial to ensure quality of OER. OER are referring to a specific workload and a duration of the use in class. So, the more clearly these aspects are the more transparency is possible and additional structural information leads to better quality of OER.

Rating Criteria for high quality OER	
Structural information	Provides time and workload related information Transparency about integration of the materials in own classes or courses Quality of the structural design

Table 6: The core rating criteria of EU-StORe – Sub criteria of ´Structural information´

Quality means the reflection of the *materials* as well. So, hints about advantages, problems and usefulness are signs of quality and additional information in that area leads to more transparency where and how the OER can be integrated in pedagogical situation. A demand analysis is also a sign of high quality materials if they are designed to fit theses needs.

Rating Criteria for high quality OER	
Materials	Describes advantages of the materials Describes problems with the materials Usefulness of the materials Quality of the demand analysis

Table 7: The core rating criteria of EU-StORe – Sub criteria of ´Materials´

Concerning *usability*, exist a huge range of models to specify this aspect. To make the rating easier to handle the partners decided to focus here on accessibility, confidence and efficiency. Easy accessible OER and OER which lead to confidence and efficiency in use are of higher quality than those where here are restrictions.

Rating Criteria for high quality OER	
Usability	Accessibility of the materials and the information Degree of confidence while using the OER Degree of efficiency in using the OER

Table 8: The core rating criteria of EU-StORe – Sub criteria of ´Usability´

With regard to the *content,* it is not only the correctness and language quality, but also the quality management and content updates and review. If content is updated, designed and compiled with focus on accuracy and adequate content structure a better quality can be reached.

Rating Criteria for high quality OER	
Content	Correctness of the content Sufficient details to convey understanding Transparency concerning updates, reviews etc. of the content Provides quality management concerning the content Quality of language used Quality of external content evaluation

Table 9: The core rating criteria of EU-StORe – Sub criteria of ´Content´

The use and embedding of *media* is an indicator for high quality, too. First, a variety of media is better than a mono-media design because of the different learner types which can be addressed whit a multiperspective media approach. In addition to that, the use of modern and innovative media shows quality as well. Nevertheless, also the quality of the design of media can differ. So, there are high resolutions films next to very fuzzy and blurry ones or audios with excellent sound and such with background noise which are bad to understand. High quality OER are clear and provide additional media information.

Rating Criteria for high quality OER	
Media	Adequate variety of media Quality of the used media (images, videos, photos, presentations) Provides instructions / guidelines for existing media Innovative use of media

Table 10: The core rating criteria of EU-StORe – Sub criteria of ´Media´

As we saw before the *target group* is an important factor in pedagogical settings. Thus, more information about the target group which the OER addressed is required and additional information concerning which target group may be reached with it as well could be an indicator for excellent OER design.

Rating Criteria for high quality OER	
Target Groups	Identification of the target group Adequacy of the OER for the target group Allows transparency of target group specific aims Addresses specific target groups (minorities, persons with special needs, gender)

Table 11: The core rating criteria of EU-StORe – Sub criteria of ´Media´

To ensure the use of OER the users need *sustainability and sponsoring* possibilities in different areas. This information has to be transparent and commercialization is an opportunity to deal with result in another scope.

Rating Criteria for high quality OER	
Sustainability and sponsoring	Allows sustainability Allows activities for a sustainable and long term OER financing Allows commercialization Transparency of the OER sponsoring

Table 12: The core rating criteria of EU-StORe – Sub criteria of ´Sustainability and sponsoring´

Last but not least, the opportunity to reach a broader *community* and to offer ways to discuss and communicate between users, learners and OER-designers indicate high quality. Here, the communication is a basis for sharing information and OER.

Rating Criteria for high quality OER	
Community	Possible communication with the OER designer Possible communication with other OER users Quality of the discussion process about the OER Offers learners the possibility of feedback about the OER

Table 13: The core rating criteria of EU-StORe – Sub criteria of ´Community´

Overall, the criteria and sub criteria offer an excellent way to provide teachers, trainers, educators as well as other interested persons and institutions with an understandable, efficient and adequate information about the quality of OER.

References

Butcher, N. (2015): A Basic Guide to Open Educational Resources (OER). Prepared by Neil Butcher for the Commonwealth of Learning & UNESCO. Kanwar, A. (COL) / Uvalic-Trumbic, S. (UNESCO) (Ed.). Paris / Vancouver 2015.

Foote, T. (2005): Open Education Conference. On the internet: http://cosl.usu.edu/media/presentations/opened2005/OpenEd2005-Fox.ppt, 29.06.2016.

OECD: Giving Knowledge For Free 2007, p. 30-31

e-teaching.org (2016): Open Educational Resources. On the Internet: https://www.e-teaching.org/didaktik/recherche/oer, 30.06.2016

4. Insights in the OER Rating – Database – Structures, Advantages and Challenges

(Marc Beutner / Carmen Duse / Rasmus Pechuel / Jennifer Schneider)

The criteria mentioned in the last chapter are used for both, structuring the process of entering information in the EU-StORe data base and presenting the information in the database to the user in an easy way.

The OER rating and the presentation of the rating results to users is a part of the EU-StORe platform (see EU-StORe platform 2016). This platform's URL is:

http://eduproject.eu/OER/

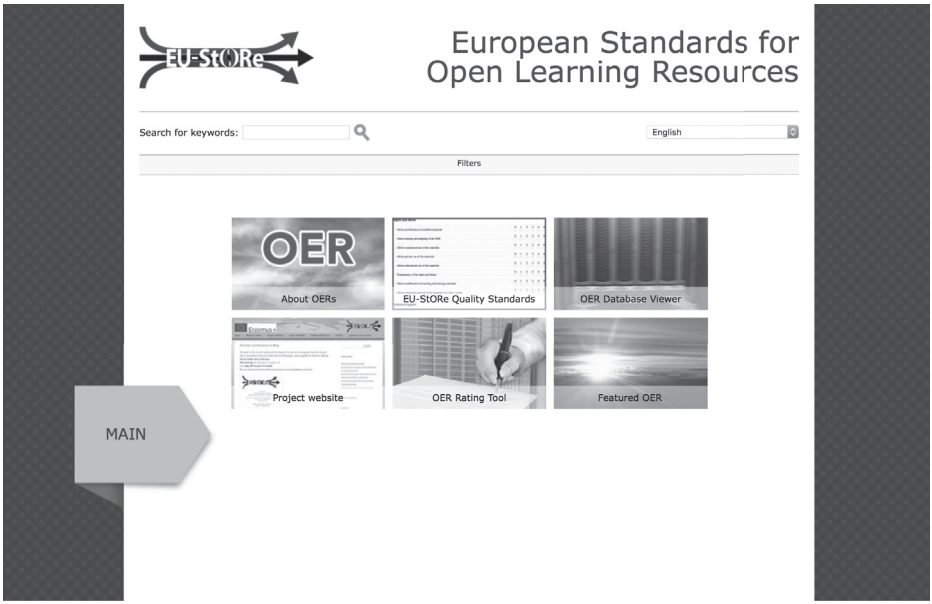


Figure 3: The main page of the EU-StORe platform with the OER database

This platform consist of six different parts:

- About OER
- EU-StORe Quality Standards
- OER Database Viewer
- Project website

- OER Rating Tool and
- Featured OER

In *About OER* the user will find general information on OER and and the project EU-StORe. In the *EU-StORe Quality Standards* the European standards developed in the project are presented in a short overview to ensure transparency. The *OER Database Viewer* presents the results and scores of already rated OER to the user and offers the opportunity to skip through different OER or to search for specific ones. The element *Project website* offers a direct link to the website and the project results of EU-StORe.

The partners of EU-StORe designed the *OER rating tool* for experts and can only be accessed by entering a login provided to selected OER experts who are responsible for the ratings. Currently, the selection of experts is done by the consortium of EU-StORe. In the future, this may change into an official subscription system or an expert rating organization to ensure that the criteria can be used all over Europe and to cope with the challenge of the huge number of available OER.

The last part of the platform is the element of *Featured OER*. Here the platform offers and presents always one OER which is very special of extraordinary. This part of the platform provides the user with the chance to see also OER which he or she may not search for but which are really interesting.

On the platform, the user always has the possibility to search for necessary information and specific OER by using the Keyword and language filter as well as specific sub filters:

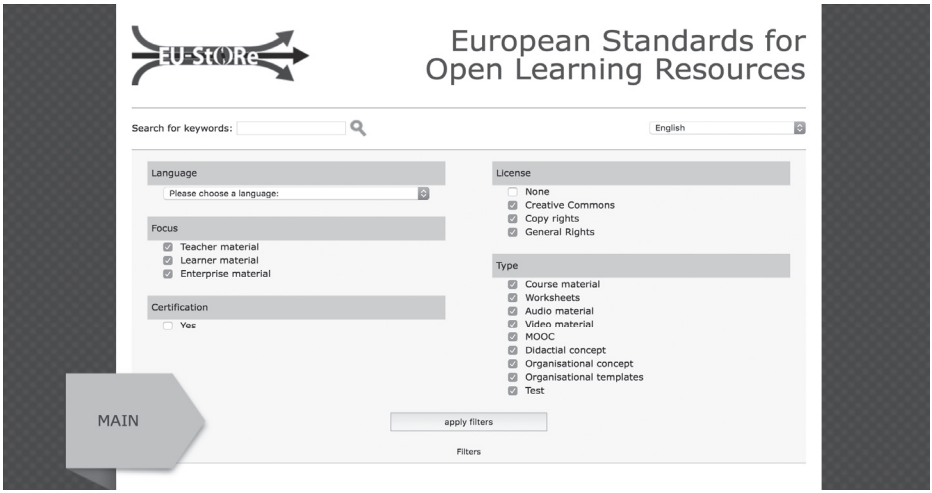


Figure 4: Filters and search possibilities on the EU-StORe platform

In the *OER Rating Database* experts describe the OER with the general criteria displayed in the last chapter and rate the OER by using the sub criteria of each core rating criterion. All quality criteria are rated on a scale with six different possible scores and a higher score indicates better quality. The rating for all sub criteria of one criterion will be summed up and divided by the number of sub criteria. This mean indicates the quality of the core criterion.

Below, you find an insight into the rating view of the expert raters concerning the descriptive criteria. Here, the experts have to analyze the OER and present it in short qualitative information:

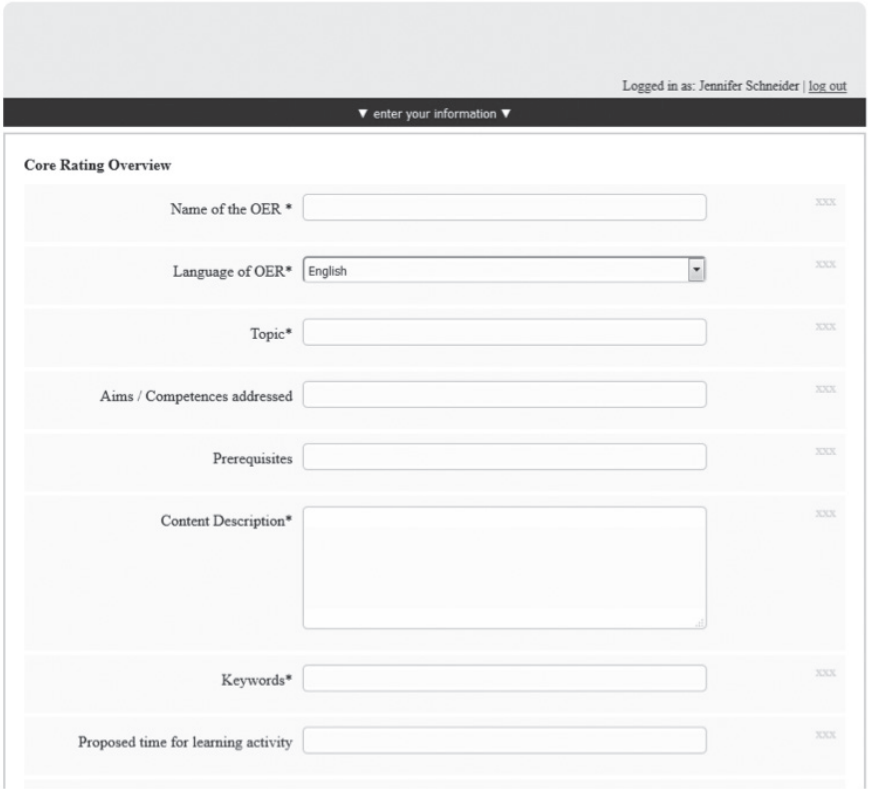


Figure 5: The rating by experts – descriptive criteria

The experts also provide quantitative information with regard to the core criteria and the sub criteria. This can be done in an easy way by clicking the appropriate score or a checkbox for n/a which means "not applicable". Sub items that are not applicable will be left out in the calculation of the mean for the core criterion. We decided to do it this way, because a missing sub item is not always a sign for lower quality. Sometimes this is just not needed but

in other cases this information may be important for the user of the database.

Rights and duties

	0	1	2	3	4	5	n/a
Allows proliferation of modified materials	○	○	○	○	○	○	☐
Allows sharing and adapting of the OER	○	○	○	○	○	○	☐
Allows commercial use of the materials	○	○	○	○	○	○	☐
Allows private use of the materials	○	○	○	○	○	○	☐
Allows educational use of the materials	○	○	○	○	○	○	☐
Transparency of the rights and duties	○	○	○	○	○	○	☐
Allows modification of teaching and learning materials	○	○	○	○	○	○	☐
Allows integration and use of the materials in a class / course	○	○	○	○	○	○	☐

Technical support

	0	1	2	3	4	5	n/a
Allows possibilities to search information and materials	○	○	○	○	○	○	☐
Allows categorization of the information and materials	○	○	○	○	○	○	☐
Allows feedback and help about the materials	○	○	○	○	○	○	☐
Allows information about the users (number of users, institutions of users, login, ...)	○	○	○	○	○	○	☐
Allows information feedback from other users (comments, rating, additional documents, ...)	○	○	○	○	○	○	☐
Allows possible database search strategies and possible database reports	○	○	○	○	○	○	☐
Quality of the database / content management system	○	○	○	○	○	○	☐

Figure 6: The rating by experts – core rating criteria

The EU-StORe database always offers the users the possibility to see both the mean and the concrete rating of the sub criteria. This process makes rating comparable and offers transparency at the same time. All criteria can be explained by pedagogical or organizational theories. The EU-StORe partners discussed the criteria not only in the team, but with external experts and received feedback from teachers and learners. The final criteria that made their way into the database are the result of this communication and feedback process.

An example for presenting the descriptive criteria that provide a general overview to foster the selection process of OER can be seen in the next figure:

Title of the OER	Food sovereignty explained to students
Language	Italian
Topic	Food sovereignty
Aims and focus of the OER	The aim of the toolkit is to introduce students to the issue of food sovereignty
Prerequisites	
Content	The toolkit "Food sovereignty explained to students" is made up of 6 modules that include teaching resources/activities, activities evaluations, videos, posters and games
Proposed time for learning activity	
Source/URL	http://www.europafrica.info/it/tool-kit/
Date of access	August 3rd 2015
License	none
Licence model for the OER platform / Terms and conditions of usage	no
Login required	no
Rationale about the OER Design	The toolkit is made up of: a presentation; 4 lessons: lesson 1 "Food unifies/food divides"; lesson 2 "Agricultural models"; lesson 3 "An agricultural mystery; lesson 4 "A plate for food sovereignty"; Evaluation tools; A poster
Focus	teacher material
Type of OER	course material / video material
Mode of assessment used by OER	not applicable
Certification	
Institution / Provider of the OER	EuropAfrica
Type of organisation	NGO
Status	private
Developer / Creator of the OER	

Figure 7: The presentation of database entries concerning the descriptive rating criteria of EU-StORe

The following overview shows the means for the core criteria. The user is presented with three main pieces of information here: The name of the rated criterion, the mean in accu-

rate numbers and a bar graph for quick visuakization of the extent of quality with regard to each criterion.

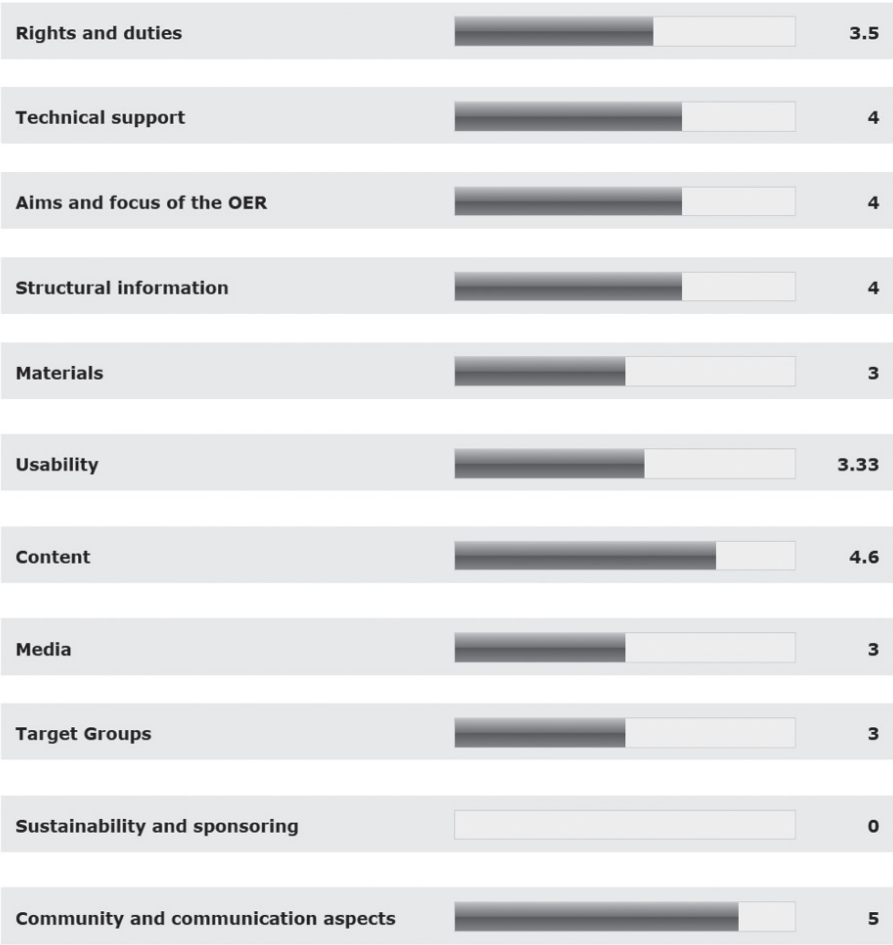


Figure 8: Example for the presentation of the means for the core rating criteria of EU-StORe to the database user

For each core criterion, the user is also able to click on its name. By doing this, the system provides a detailed view on this criterion with all ratings of the sub criteria. The next figure shows how this looks like. The example is taken from the rating of the OER mentioned in the figures above and focuses on the core criterion "rights and duties" and the associated sub criteria.

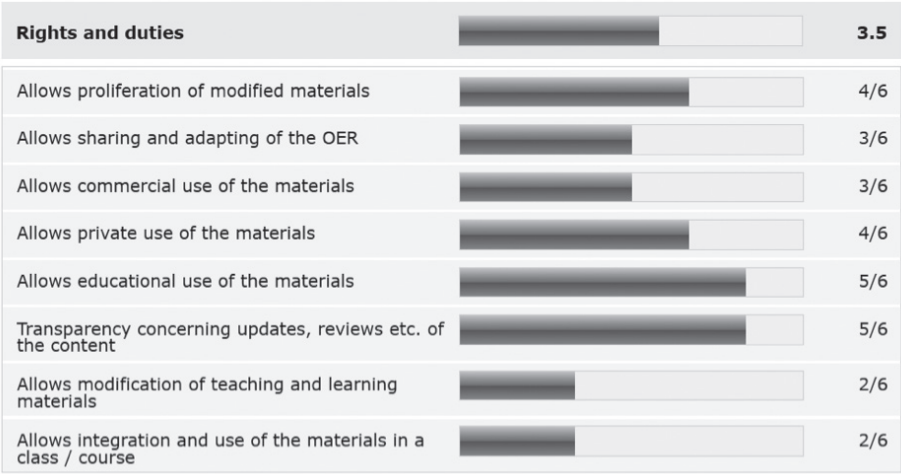


Figure 9: Example for the presentation of the sub criteria ratings for the criterion 'rights and duties´ to the database user

The advantages of such an OER rating are at hand. Experts are rating OER according to defined standards and this offers the opportunity to compare the quality of OER. Moreover, the uses can provide statements and sores as well which can be displayed in the tool. This can be a great additional hint but is also a challenge. An expert rating is much more serious because often users only act when they are unsatisfied with OER. Users who are happy with the OER usually don't rate it because everything worked well and the rating is just an additional task. Users who are unsatisfied are often emotional and want to express their feelings. So, they are rating more often. That´s a reason why provided user-related scorings are sometime worse than the real feelings of the average of all users.

In a rating database it is interesting to get information from the users as well. So it was important that there is not only a "like" or "dislike" click of users but also a qualitative feedback. This is more helpful for future users. Therefore, the consortium decided to combine expert ratings and user ratings.

Another challenge is that everybody interprets the criteria in a similar way. In order to cope with this problem the experts discuss with each other to clarify the views on the criteria and to get to a common interpretation and a similar scoring. This can be reached by double scoring as well. However, especially for the user centered rating of OER a common view on the criteria cannot be guaranteed. The transparency of the criteria and explanations by short overviews on the platform or in longer texts like here in the book offer a way to deal with this challenge.

Overall, it is a huge advantage to focus on quality of OER and not only on storing and sharing OER. It is important to have high quality OER to improve education and here common criteria and a common rating system offer an excellent basis.

References

EU-StOre Platform (2016): The EU-StORe platform. On the Internet: http://eduproject.eu/OER. Date: 01.07.2016.

Part II

Use and Implementation

5. Use and Implementation of OERs in Germany

(Marc Beutner / Jennifer Schneider)

In Germany the awareness of Open educational Resources (OERs) in the field of politics and in the practical field varies a lot. There has been a discussion on OERs for several years now[1](see BPB 2016). Therefore, various different educational actors are focusing on OER. These actors are political parties and institutions, education providers, governmental institutions and non-profit institutions. In addition, some enterprises are looking at the developments in the field of OER.

"Opening up Education" as it is promoted by the European Commission is recognized as a future trend. This goes hand in hand with the following future trends:

*"**Constants amongst the change***

1. *The world of work is increasingly global and increasingly collaborative.*
2. *People expect to work, learn, socialise, and play whenever and wherever they want to.*
3. *The Internet is becoming a global mobile network — and already is at its edges.*
4. *The technologies we use are increasingly cloud-based and delivered over utility networks, facilitating the rapid growth of online videos and rich media.*
5. *Openness — concepts like open content, open data, and open resources, along with notions of transparency and easy access to data and information — is moving from a trend to a value for much of the world.*
6. *Legal notions of ownership and privacy lag behind the practices common in society.*
7. *Real challenges of access, efficiency, and scale are redefining what we mean by quality and success.*
8. *The Internet is constantly challenging us to rethink learning and education, while refining our notion of literacy.*
9. *There is a rise in informal learning as individual needs are redefining schools, universities, and training.*
10. *Business models across the education ecosystem are changing."*[2]

*"**Ten future technological trends***

1. *e-Books: dynamic formats, and innovative uses*
2. *Publisher-led short courses: offering self-directed, CPD learning opportunities;*
3. *Assessment for Learning: changing the focus of assessment from assessment of learning outcomes towards assessment for feedback to enhance the learning;*
4. *Badges: awarding 'non-formal learning' through a widely-recognised honour or badge system;*
5. *MOOCs: massive open online courses bring open-access education to the masses;*

1 Cf. BPB 2016.
2 European Commission 2013, p.6.

6. *Changing nature of academic publishing: the continued development of open-access scholarly publishing initiatives;*
7. *Seamless Learning: learning across multiple locations, platforms, formats in a continued way;*
8. *Learning Analytics: emphasis on obtaining data to learn more about the learner and their contexts in an effort to improve learning opportunities;*
9. *Personal Inquiry Learning: focus on the learner as an active, exploratory learning agent involved in discovery and inquiry learning processes;*
10. *Rhizomatic Learning: learning occurring through multi-facets/avenues of inquiry, taking contexts and previous knowledge and experiences into consideration, using social and personal sources of learning to foster a personal learning network."*[3]

In Germany such developments and changes are the basis for the OER discussion.[4] It is encouraged in order to prepare for the upcoming problems and challenges as well as to meet the requirements of education in the 21th century. On January 15th 2016 the BMBF (Bundesministerium für Bildung und Forschung - Ministery of Education and Research) published in the Federal Journal (Bundesanzeiger - Federal Gazette) information concerning the development of OERs in Germany. This present funding measure aims at OERs and a broad visibility of OER potential. It focusses on the development of competences and skills for the use, production and dissemination of open educational materials. Therefore, this measure aims to support a broad base of OERs in Germany. One goal is to focus on missing skills and insufficient knowledge about the concept of OERs at the respective target groups. [5]

Currently, the German implementation is promoting the idea of ´sharing´ and ´collecting´ existing OERs. Other aspects of OER design and quality assurance are discussed but not really in the focus of implementation.[6] Concerning these discussions, it seems to be important to create awareness in the practical field of education first. For Germany the idea of sharing is not new. One of the basic characteristics of education is to share knowledge, insights and information with others, upon which new knowledge, understanding, ideas, and skills are built.[7]

A new aspect in the OER discussion is the fact that IT and new media offer new possibilities. OERs in Germany cannot only be seen through a national perspective. International aspects and international education has a large impact on classical German teaching and learning materials.

In Germany OERs can be seen in a context with work-life-balance and the fitting of business and family.[8] Teachers who are already aware of OERs sometimes state that existing

3 European Commission 2013, p.6.
4 Cf. BMBF 2016.
5 Cf. BMBF 2016.
6 Cf. Beutner 2016.
7 Cf. OEConsortium 2016.
8 Cf. Lothaller 2009, p. 48ff.

high quality materials could reduce the work on new materials and offer an improvement of education in combination with a better work-life-balance for the teacher who would otherwise have to create new additional materials.

This is why the importance of sharing learning resources increased in Germany in the last years.[9] The increase goes hand in hand with the wish of leaners to learn in a more personalized way and in individualized learning environments and learning scenarios.[10] OERs may also provide the opportunity to manage learning time in a more individualized way.[11]

In general, the following can be stated for Germany:

"Prinzipiell ist eine Sensibilisierung von Lehrkräften für die Potentiale von Open Educational Resources und den verantwortungsvollen Einsatz von freien Lernmaterialien durchaus zu begrüßen, da sich dies auch in den bildungspolitischen Zielen der EU widerspiegelt und eine solche Umsetzung als Basis dafür dienen kann, um für das Bildungssystem und die Lehrkräfte sowie für die Lernenden positive Effekte zu erschließen, sofern Qualitätssicherung hinsichtlich der OER spezifische Berücksichtigung findet und entsprechende Rahmenbedingungen zur Verfügung gestellt werden."[12]

Although the white paper of Bretschneider / Muuss - Merholz / Schaumberg from 2012: "Open Educational Resources (OER) für Schulen in Deutschland. Whitepaper zu Grundlagen, Akteuren und Entwicklungsstand im März 2012" (Open Educational Resources (OER) for schools in Germany. White Paper about basics, actors and development in March 2012) offers first considerations for the school sector, there are only a few research results on the consumer- oriented view on OER with regard to the teachers, lecturers and students. This is hardly investigated for Germany.

For education Muuss - Merholz / Schaumberg offered 2014 considerations about factors and aspects that could affect the development of OERs in the future:[13]

(A) Copyright
(B) Digitizing hardware and materials
(C) Availability / Cost
(D) Education / Teaching
(E) Traceability and quality assurance

9 Cf. OER Konferenz 2013, cf. OER Konferenz 2014.
10 Cf. Beutner / Teine / Gebbe / Fortmann 2016, p. 11ff.
11 Cf. Beutner / Kremer / Zoyke 2013, p. 11ff.
12 Beutner 2016, p. 1.
Translation: In principle, a sensitization of teachers for the potentials of Open Educational Resources and the responsible use of free learning materials should be welcomed, since this is also reflected in the educational objectives of the EU. Such an implementation form can be the basis to open up positive effects for the education system, for teachers and for learners. But it is necessary to provide quality assurance with regard to the OER and appropriate conditions and environments.
13 Cf. Muuss-Merholz / Schaumberg 2014, S. 48ff.

(F) Conduct and behavior of the publishers
(G) Testing center for education hazardous teaching materials
(H) Promotion / model projects
(I) Business models

In the work group of the KMK (Arbeitsgruppe der KMK – working group of the Standing Conference of the Ministers of Education and Cultural Affairs) on Open Educational Resources from 2015 the authors addressed various levels on which discussions are needed in Germany:

(A) the educational level and the themed critical use of OERs,
(B) the organisational and functional level, which also includes the educational and didactic question about the importance of quality aspects of the provided content is discussed,
(C) the technical level,
(D) the legal level and
(E) the economic levels.[14]

This work group stated in 2015:

"*Open Educational Resources (OER) können positive Effektive auf Lernen und Lehren haben. Dafür sind in den unterschiedlichen Bildungsbereichen entsprechende Rahmenbedingungen zu gewährleisten bzw. zu schaffen.*"[15]

The whitepaper of Deimann / Neumann / Muuss-Merholz from 2015 focuses on higher education and emphasises that the conditions are important:

"*Die Potenziale und didaktischen Mehrwerte stehen jedoch einer gelebten Realität an Hochschulen gegenüber, die eher auf das Prinzip ´was ich nicht selbst erstelle, ist nichts wert´, denn auf das Teilen von Materialien setzt.*"[16]

Also the study of the DIPF from 2016[17] states that there is a lot of work to do:

"*Die derzeit noch sehr disparat vorliegenden Bestände und Zugänge zu Open Educational Resources (OER) bedeuten zu große Hürden für deren Auffindbarkeit und effektive Nutzbarkeit. Infrastrukturen zur*

14 Cf. Arbeitsgruppe der KMK 2015, S. 4.
15 Cf. Arbeitsgruppe der KMK 2015, S. 11.
16 Cf. Deimann / Neumann / Muuss-Merholz 2015, S. 31.
Translation:
The potential and didactic added value, however, are standing in contrast to a lived reality in higher education institutions. This reality focusses on the principle I 'What I didn't create myself, is not of value'. The system does not rely on the sharing of materials.
17 Cf. Deutscher Bildungsserver / DIPF 2016.

Optimierung der Verfügbarkeit von OER werden daher in allen Bildungssektoren befürwortet."[18]

So, next to creating awareness, quality assurance is one of the most important aspects about OERs for Germany.[19] Nowadays a strong community with many different platforms that provide OERs exists. The reasons why such institutions and individuals use, produce or share OERs are manyfold. Altruistic motives and community supportive reasons can be found with the intention of widening the participation in higher education through the use of OERs.[20]

The platform 4teachers.de is one of the biggest German OER platform which provides different types of OERs in different fields. In addition, there are several more. But, the majority of OERs producers are located in English-speaking countries. As early as in 2007 it was possible for the OECD to identify e.g. over 3000 open courseware courses.[21] The following table provides a first short overview of some OER platforms in German language:

4 teacher GmbH	http://www.4teachers.de/?action=show&id=9
Deutsches Institut für Internationale Pädagogische Forschung (DIPF)	http://www.edutags.de/suche/0?search=Oer
Elixier	http://www.bildungsserver.de/elixier/
Landesbildungsserver des Landes Baden-Württemberg	http://www.schule-bw.de/aktuelles/
Schweizer Medieninstitut für Bildung und Kultur	http://biblio.educa.ch/de
Schweizer Medieninstitut für Bildung und Kultur	http://unterricht.educa.ch/de/search/worksheet
Jörg Pöhland- Diplomlehrer für Fremdsprachen	http://www.englisch-hilfen.de/lehrer/
2013 Medienberatung NRW, Bertha-von-Suttner-Platz 1, 40227 Düsseldorf	http://www.learnline.schulministerium.nrw.de/learnline/search?search=Arbeitsbl%C3%A4tter&edmond[]=
Metz & Metz GbR	http://www.lehrerfreund.de/schule/kat/unterrichtsmaterial
Eduversum GmbH	http://www.lehrer-online.de/unterricht.php?sid=20566645050066769842710891089120
rpi-virtuell	http://www.rpi-virtuell.net/material

18 Cf. Deutscher Bildungsserver / DIPF 2016, p. 6.
19 Cf. Beutner 2016, p. 5.
20 Cf. OECD 2007.
21 Cf. Butcher / Kanwar / Uvalic- Trumbic 2011.

Projekt am Historischen Institut- Universität zu Köln	http://www.segu-geschichte.de/
Serlo	https://de.serlo.org/
TarGroup Media GmbH & Co. KG	http://www.bwl24.net/skripte/
Uniwise Media UG	http://www.unidog.de/#d=5&o=rating&t=fi,l,b-b,,&h=5
Eduversum GmbH	http://www.lehrer-online.de/grundschule.php?sid=21800850413059143430977137713310
WS- IT GmbH: web solution- informations technologie	http://vs-material.wegerer.at/inhalt01.html
Simplicity GmbH	http://www.wiwi-treff.de/home/index.php?main-katid=1&ukatid=12&sid=41&limit=
LegaKids-Stiftungs GmbH	http://www.legakids.net/eltern-lehrer/info-ueber-lrs-co/neues/
Kerstin Breuer	http://materialwiese.blogspot.de/p/kostenlos.html
Pharetis GmbH	http://www.uniturm.de/alle-unterlagen/0?order_by=-subject_name&sort=desc
Lernbiene Verlag GmbH	http://www.lernbiene.de/gratisdownloads.html
Bundesministerium für Bildung und Forschung	http://www.bmbf.de/de/6201.php

Table 14: OER platforms in German language

For Germany it is important that

- the level of awareness concerning OERs should be increased.
- a campaign in schools and enterprises should be considered to ensure increasing awareness and to foster the development, the sharing and usage of OERs in Germany
- the quality criteria of EU-StORe should be used to focus much more on high quality OERs in Germany rather than only on the collection of files in online portals.
- OERs should be created and shared among education professionals and therefore OER courses for teachers and trainers should be established.
- OERs should be integrated in general education as well as in VET.
- High quality OERs of other European countries are identify and translated to get access to additional relevant high quality resources available in other languages.

- OERs can be integrated in curricular structure and therefore OERs have to be a part in teacher education and further education for teachers and trainers as well.
- Moreover, it is necessary to developing digital competences of teachers and teacher students to increase the use of IT and OERs in teaching and learning.

References

Arbeitsgruppe der KMK (2015): Bericht der Arbeitsgruppe aus Vertreterinnen und Vertretern der Länder und des Bundes zu Open Educational Resources (OER). 27.01.2015. On the internet: http://www.bildungsserver.de/pdf/Bericht_AG_OER_2015-01-27.pdf, 25.02.2016.

Beutner, M. (2016): Stellungnahme zum Thema Open Educational Resources (OER). Als Vorbereitung der Anhörung von Sachverständigen des Ausschusses für Schule und Weiterbildung des Landtags NRW am Mittwoch, dem 9. März 2016. Anhörung auf Basis des Antrags der PIRATEN-Fraktion, Drucksache 16/10298 „Lehrkräfte für die Potentiale von Open Educational Resources und den verantwortungsvollen Einsatz von freien Lernmaterialien sensibilisieren". Expertenanhörung. Paderborn 2016.

Beutner, M. / Kremer, H.-H. / Zoyke, A. (2013): Exploring Personalized Learning in the Context of the Transition System. In: Seifried, J. / Wuttke, E. (eds.): Transitions in Vocational Education. Research in vocational education. Volume 2, Opladen / Berlin / Toronto 2013. p. 143-162.

Beutner, M. / Teine, M. / Gebbe, M. / Fortmann, L. M. (2016): NetEnquiry - A competitive Mobile Learning Approach for the Banking Sector. In: IADIS – International association for development of the information society: Sánchez, I. A. / Isaías, P. (2016): Proceedings of the 12th International Conference mobile learning 2016. April 9th to 11th 2016. Vilamoura, Portugal 2016, p. 11-18.

BMBF (2016): Bekanntmachung. Richtlinie zur Förderung von Offenen Bildungsmaterialien (Open Educational Resources – OERinfo). Bundesanzeiger vom 15.01.2016. On the internet: https://www.bmbf.de/foerderungen/bekanntmachung.php?B=1132, 10.07.2016.

BPB - Bundeszentral für politische Bildung (2016): Spezial. OER – Material für alle. On the internet: http://www.bpb.de/lernen/digitale-bildung/oer-material-fuer-alle/, 01.07.2016.

Bretschneider, M. / Muuss-Merholz, J. / Schaumburg, F. (2012): Open Educational Resources (OER) für Schulen in Deutschland. Whitepaper zu Grundlagen, Akteuren und Entwicklungsstand im März 2012. On the internet: http://www.joeran.de/dox/Open-Educational-Resources-OER-f%C3%BCr-Schulen-in-Deutschland-V-1-0-Whitepaper-Maerz-2012.pdf, 25.02.2016.

Butcher, N. / Kanwar, A. / Uvalic- Trumbic, S. (2011): A basic guide to Open Educatioanl

Resources (OER). Available in Open Access under the Attribution-ShareAlike 3.0 IGO (CC-BY-SA 3.0 IGO) license (http://creativecommons.org/licenses/by-sa/3.0/igo/). On the internet:
http://unesdoc.unesco.org/images/0021/002158/215804e.pdf, 10.07.2016.

European Commission (2013): COMMISSION STAFF WORKING DOCUMENT Analysis and mapping of innovative teaching and learning for all through new Technologies and Open Educational Resources in Europe. Accompanying the document Communication 'Opening Up Education'. {COM(2013) 654 final}. On the internet:
http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013SC0341& from=EN, 15.07.2016.
Based on: NMC – New Media consortium 2013. Based on: Sharpels 2012.

Lothaller, H. (2009): On the way to life-domains balance: Success factors and obstacles. In: Intergenerational Justice Review 9/2(2009). Stiftung für die Rechte zukünftiger Generationen. On the internet:
http://www.generationengerechtigkeit.de/images/stories/JfGG/igjr_vol_9_issue_2_2009.pdf, 10.07.2016.

Muuss-Mehrholz, J. / Schaumburg, F. (2014): Open Educational Resources (OER) für Schulen in Deutschland 2014. Whitepaper zu Grundlagen, Akteuren und Entwicklungen. In: Internet & Gesellschaft Collaboratory e.V. (Hrsg.): oer-whitepaper. Internet am 22.03.2014. Veröffentlicht unter einer CC-by-4.0-Lizenz: Jöran Muuss-Merholz und Felix Schaumburg | oer-whitepaper.collaboratory.de (aufbauend auf die vorherige Fassung aus dem Jahr 2012, zu finden unter http://goo.gl/14Ikv, veröffentlicht unter einer CC-by-3.0-Lizenz (http://creativecommons.org/licenses/by/3.0/de/) mit den Urhebern Mirjam Bretschneider, Jöran Muuß-Merholz und Felix Schaumburg im Auftrag des Internet & Gesellschaft Collaboratory - http://www.collaboratory.de/.)
On the internet:
http://open-educational-resources.de/wp-content/uploads/ sites/4/2014/03/OER-Whitepaper_OER-in-der-Schule-2014.pdf, 15.06.2015.

NMC – New Media consortium (2013): The Future of Education: The 2013 NMC Horizon Project Summit Communiqué. On the internet: http://www.nmc.org/pdf/2013-Horizon-Project-Summit-Communique.pdf, 15.07.2016.

OEConsortium (2016): About the Open Education Consortium. http://www.oeconsortium.org/about-oec/, 15.07.2016.

OER Konferenz (2013): Freie Bildungsmaterialien in Deutschland. Berlin, 14.-15. September 2013. On the internet:
https://wikimedia.de/wiki/OERde13, 10.07.2016.

OER Konferenz (2014): Die Zukunft freier Bildungsmaterialien - OER-Konferenz 2014. Berlin, 12. & 13. September 2014. On the internet: https://wikimedia.de/wiki/OERde14, 10.07.2016.

Sharples, M. (2012): UK Open University's Innovating Pedagogy 2012 Report. On the

internet: http://www.open.ac.uk/personalpages/mike.sharples/Reports/Innovating_Pedagogy_report_July_2012.pdf, 15.07.2016.

6. Use and Implementation of OERs in Ireland

(Jennifer Land / Sarah Land)

Introduction

With the rising global demand for further and higher education, Open Education Resources and courseware are seen as the future in education provision, as they offer an effective means of delivering quality education to an unlimited number of learners at once. However, in Ireland development in this area has been slow. This is largely due to funding constraints on universities who are unable to financially support off-campus learning. Due to the monies received for providing face-to-face, on-campus curricula, universities also have no monetary resources for developing their own bespoke Open Education Resources.[22] In general, Online Education in Ireland can be characterised as fee-paying courses, with little accreditation offered and a general perception by the academic industry and employers that qualifications awarded from online universities and training providers are not as well regarded as those which are attained through traditional, classroom-based training delivery and from reputable institutions. There is a lack of reputation in Ireland where Online Education providers are concerned and so these programmes are largely under-valued. This is evident when we consider that Higher Education in Ireland is heavily subsidised by the Government, with the majority of the Irish student body qualifying for the 'Free Fees Scheme', and many qualifying for a maintenance grant of up to €12,500 per annum per student to attend university.

Despite this support for students to attend Higher Education, there are currently no current government grants, subsidies or free-fee schemes for students wishing to complete courses online. As a result, less than 3% of students throughout Ireland currently study by distance or through online platforms, and comparatively few are registered as part-time learners (Higher Education Authority, 2014). This 3% includes all students who were engaged in what it terms flexible learning, which includes distance and in service education. Compare this with the USA where 30% of all students take at least one course online.[23] Due to these funding constraints, for both students and institutions, there has been a lack of development in field of Online and Open Education Resources in Ireland.

Accreditation of online content is also a major concern amongst the academic community and student body in Ireland, with many fearful that qualifications obtained through online institutions, or courses completed which are not formally accredited, will not be recognised or appreciated by employers; and so these concerns have had adverse effects on the proliferation of OERs in Ireland.[24]

22 Cf. Brown, 2014.
23 Cf. Lucey 2013.
24 Cf. Irish Independent 2013.

A report by the Higher Education Authority (HEA) in 2012, 'Part-time and Flexible Higher Education in Ireland', has addressed the underdevelopment of Online and Open Education in Ireland by recommending that "by 2016, full equality of provision and support will have been achieved in higher education for all students, regardless of time, place or pace of study"25 however to date, no major interventions have been made to achieve this aim. Further to this, a report by the High Level Group on the Modernisation of Higher Education in 2014 recommended that "national funding frameworks should create incentives, especially in the context of new forms of performance-based funding, for higher education institutions to open up education, develop more flexible modes of delivery and diversify their student population."26

Despite these aims, and recommendations from Europe, there has been minimal progress in Ireland.

Open Education in Irish Universities

Despite these reservations, in recent years there has been a noticeable increase in the participation of universities and colleges in Ireland in offering Online Education programmes. Institutions which are now offering accredited certificate, diploma, undergraduate and postgraduate courses include the Institute of Technology Sligo, Trinity College Dublin, University College Dublin, National University of Ireland, Galway, Dublin City University, Hibernia College, National College of Ireland and Dublin Institute of Technology. However the majority of courses offered online by these universities are fee-paying, with the fees for completing a degree programme or similar online substantially higher than if a student were to complete the programme in a traditional, face-to-face setting.

Though, these institutions are yet to offer open-access OERs to the public, with the development of their Online Learning platforms and courses, this shows that educational institutions in Ireland are at least moving in the right direction; embracing the latest e-learning technologies and using best practice in e-didactics to design and develop these innovative new programmes.

MOOCs in Ireland

While the benefits of OERs are numerous, educationalists in Ireland are currently debating the true value of these open resources, which are free of charge and unaccredited. Despite these concerns, some universities and colleges in Ireland, namely the Institute of Technology Sligo, Trinity College Dublin and Dublin Institute of Technology, have adopted policies of open education by publishing Ireland's first MOOCs (Massive Open Online Courses),

25 HEA 2012.
26 High Level Group on the Modernisation of Higher Education 2014.

in response to this new demand for open, free, online training programmes.

This table presents the MOOCs currently on offer by these institutions:

Institution	Course	Description & Duration	Source
Institute of Technology Sligo	Introduction to Lean Sigma Quality	This is a free six-week course, which provides learners with videos lectures, discussion forums, quizzes and additional resources on Lean Sigma Quality topics. If a grade of 50% or more is attained by the learner they will be awarded an electronic certificate.	http://odl.itsligo.ie/engineering/manufacturing-and-quality-management/introduction-to-lean-sigma-free/
Trinity College Dublin (in partnership with FutureLearn)	Irish Lives in War and Revolution: Exploring Ireland's History 1912-1923	This is a six week course which studies the events that shaped the nature of modern Ireland - the Great War, the Easter Rising, the Irish war of independence and civil war. It requires 5 hours of study per week, and a Certificate of Participation in awarded by TCD on completion.	https://www.tcd.ie/OnlineEducation/free-online-course/
	Strategies for Successful Ageing	This is a five-week course, which presents world-leading research in successful ageing and aims to challenge learners' perceptions of ageing. This course educates learners on activities and behaviours which are of most benefit to ageing adults, and also on how to appreciate the contribution of older adults to society.	https://www.futurelearn.com/courses/successful-ageing
	Exercise Prescription for the Prevention and Treatment of Disease	This is a free online course which takes 2 weeks to complete. During this time, learners will be introduced to the role of exercise in the treatment of a variety of clinical populations including people with cardiovascular disease, mental health problems, paediatric conditions and cancer. Learners will also discover the benefits of exercise in both preventing and treating diseases. This course is targeted at healthcare professionals and aims to enhance their confidence in prescribing exercise as a treatment.	https://www.futurelearn.com/courses/exercise-prescription/2

Dublin Institute of Technology	Introduction to Pharmaceutical Manufacturing	This is a free, three-week introduction to Pharmaceutical Manufacturing, a highly regulated environment due to the need to ensure patient safety	http://dit.ie/lttc/elearning/mooc/
	Applied Digital Signal Processing	This is a free, online introductory course to Digital Signal Processing. The course deals with the fundamentals in addition to exploring techniques like filtering, correlation and Fourier analysis. There is an emphasis in applying Digital Signal Processing theory to practical problems. This course includes content on the analysis and synthesis of digital signals.	https://www.mooc-list.com/course/applied-digital-signal-processing-dit?static=true

Table 15: OERs in Ireland

The table above provides details of the state-sponsored institutions and universities which have branched out and began offering OERs through their bespoke MOOCs. However, there is one private company, based in Ireland, which is a leader and innovator in this field.

ALISON.com is the best example of an Irish-based online platform which promotes and stores OERs. ALISON, which stands for 'Advance Learning Interactive Systems Online', is a social enterprise which was established in Galway in 2007. ALISON is a pioneering free online learning platform, which focusses on basic education and workplace skills training. It is recognised as the world's first MOOC, and is now a global leader in producing and disseminating OERs.

ALISON has 7 million users in 250 countries worldwide; with 800,000 learners having already completed Diploma and Certificate courses through the portal in the last 9 years.[27] Currently, the MOOC has over 1.2 million unique visitors per month, with the majority of learners coming from developing countries; India being the most prominent.[28] Currently ALISON.com offers 600 courses at both diploma and certificate level, and these courses are targeted at individual adult learners, employees, wishing to undertake workplace training to enhance their skills, and jobseekers.

ALISON's diploma and certificate courses typically range in duration from 8 to 10 hours of study. Once learners complete the respective modules in these courses, there is an assessment, and once the learner attains a mark of 80% or more in the assessment, this is deemed a pass mark and the certificate or diploma can be awarded. These assessments ensure that a quality standard is adhered to for all courses. The following table presents an overview of all topics for which ALISON provides certificate and diploma courses in work-place skills:

27 Cf. Alsion 2016.
28 Cf. Booker 2013.

3D Printing	Accounting	Accounting & Finance Professionals	Adobe
Anatomy	App Development	Arabic	Art
Banking	Biology	Business	Business Communication Skills
Business Services	C # Programming	Care Provision	Career Development
Carpentry	Change Management	Chemistry	Childcare Studies
Chinese Language Studies	Community Development	Computer Basics	Computer Networking
Conflict Resolution	Construction Skills	Customer Service	Digital Creative Design
E-Business	E-Business and Marketing Professionals	Economics	Electrical Engineering
Engineering	English	English Diplomas	English for Business
English for Teaching	English for Tourism	English Grammar	English Literature
English Speaking Skills	Entrepreneurial Skills	Environment	Finance
Food Safety	French	Geography	German
Global Health Initiative	Google	Health & Healthcare Professionals	Health and Fitness
Health and Safety	Health Management	History	Hospitality Management
Human Nutrition	Human Resources	Information Technology	Investment
Irish	Job Search Skills	Journalism	Law and Legal Skills
Management	Management Professionals	Manufacturing	Marketing and Sales
Masonry Skills	Maths	Mental Health Studies	Microsoft Office
Multimedia Technology	Music	Nursing Studies	Office Skills
Operations Management	Photography	Photoshop	Physics
Plumbing	Procurement	Programming	Project Management
Project Maths	Psychology	Public Relations	Quality Management
Risk Management	Sales Management	Science	Six Sigma
Social Media Techniques	Social Work Skills	Sociology	Spanish Language Skills
Statistics	Strategic Management	Study Skills	Supply Chain Management
Sustainable Business	Swedish	Teacher Resources	Teaching and Training Professionals
Tourism	Typing	Web Development	Workplace Safety
Yoga			

Figure 10: ALISON - certificate and diploma courses in work-place skills (Source: http://alison.com/learn)[29]

29 Alison 2016.

OER Databases in Ireland

In spite of the discrepancies in the national policies for Higher Education, the Higher Education Authority (HEA) launched the National Digital Learning Resources (NDLR) web portal as a pilot OER project in 2004. The NDLR allowed educators to develop, share and distribute learning resources. This website acted as an online catalogue of OERs, and it also as a community portal which was shared between the 7 state universities and 14 Institutes of Technology located across Ireland. These 21 HEIs also played a role in developing content for the platform, as well as assessing and evaluating OERs which are published on the platform. The aim of the NDLR portal was to "promote and support higher education staff in the collaboration, development and sharing of learning resources and associate teaching practices" and to date it is reported that this portal hosts a total of 25,000 resources.[30] Statistics from 1st January until 27th March 2012 show that there were 2,432 unique visitors to the site in this three-month period, and that 37.8%, or 1,325, individuals were return visitors to the site.[31]

Despite the fact that the NDLR has representative members working in 21 Higher Education Institutions in Ireland, and collaborating to produce OERs, unfortunately many of the OERs listed on the platform do not come from accredited or recognised education providers, and there are concerns over the quality of its content. For example, when a user searches the repository for 'business' OERs, 1,336 OERs are presented as being relevant to this topic; however, only approximately 8 resources from every 100 are attributed with an author, and included in the search history are digitally enhanced photographs of 'Dublin at night' which is neither an OER nor is it of any relevance to the topic of 'Business'.[32] The portal also includes OERs the majority of which were uploaded in 2010 and 2011, and the portal itself has not been updated since 2012.

This platform has ceased to be operational since 2012. The 2008 evaluation of the platform showed that this portal was innovative in that it piloted the first network in Ireland that brought third level educational experts together to produce and evaluate OERs. The evaluation showed that reluctance to share resources did not emerge as a significant barrier to the growth of the NDLR, however this had to be offset against the poor usability of the interface which emerged as a greater barrier at that time.[33] Due to the usability of the platform and the software, user data collated through Google Analytics shows that while there were frequent visits to the repository, visitors spent limited time on the platform and very few users undertook "deep" usage of the repository of OERs. Despite the short-comings of this NDLR, it still represented a big step forward for the use and implementation of OERs in Ireland.

30 Cf. Marcus-Quinn / Diggins 2013, cf. NDLR 2012.
31 Cf. NDLR, 2012.
32 Cf. NDLR, 2012.
33 Cf. National Forum 2015.

OER Policy in Ireland

From a policy perspective, Government policy is lagging behind the work of private companies, such as ALISON.com, and traditional universities such as Trinity, DIT and IT Sligo (as mentioned previously); as well as fully online institutions like the Open University, which has recently opened to an Irish audience with the domain, openuniversity.ie, and Hibernia College which offers initial and continual teacher education at postgraduate and doctoral levels. These courses are usually fully online, with some practical teaching experience required to fulfil accreditation criteria.

While these institutions have taken it upon themselves to design, develop and deliver their respective Online Learning programmes, MOOCs and OER databases, there has been no policy response by the Irish Government to these developments. In 2011, the Department of Education and Skills published their 'National Strategy for Higher Education 2030' (Dept. of Education and Skills, 2011). This document outlines the Government's policies for improving higher education provision until 2030; and yet, despite the significance of the MOOC and OER movement in Europe and the USA, no mention is given to Open Education or MOOCs in the policy. Further to this, distance and online learning were only briefly mentioned, in one paragraph of the policy, as an area which needs further development in higher education provision, but with no concrete measures or actions mentioned as to how this development will be achieved.

Although there is a lack of educational policy in this field, the area of Open Education and the promotion of OERs in formal education has been highlighted as a priority by the National Forum for the Enhancement of Teaching and Learning in Higher Education. In their report, 'Teaching and learning in higher education: a roadmap for enhancement in a digital world, 2015-2017', recommendation 3, priority 5 of the Roadmap highlights the importance of:

"Develop[ing] and implement[ing] open education principles and practices for Irish education that are aligned with EU policy and emerging international practice."[34]

This report was published in 2015 and as of yet, there has been no policy response to the identified priority or any of the Forum's other recommendations; however with the commissioning of this report, it is fair to presume that policy in relation to the use of OERs in formal education will follow these recommendations.

The Use and Implementation of OERs in Ireland

While the use of online resources and programmes, e-learning portals and digital resources is on the rise in Ireland, the use of OERs is still in its infancy. Although many third level

34 National Forum for the Enhancement of Teaching and Learning 2015, p. 41.

students and adult learners are aware of the availability of digital learning materials, this does not always necessarily equate with the use of open educational resources, in the sense that learners and tutors in Ireland rarely adapt, re-purpose and share educational resources within their online networks in this way.

A report published by the National Forum for the Enhancement of Teaching and Learning in Higher Education in 2015, analyses the lessons learned from the development of the NDLR portal, and considers the current use of OERs in Higher Education in Ireland to identify some of the key issues which affect how OERs are accessed, adapted, shared and used in Higher Education in Ireland.

A survey was conducted within the tertiary education sector in Ireland and the findings were detailed in this report by the National Forum. The report found that, the kinds of activities that are taking place with the use of digital learning resources, but not necessarily Open Education Resources, include:

- Sticking with the text book and using the 'open' resources assigned to that;
- Use of resources from YouTube, SlideShare, Twitter, Flickr, Google docs, and various repositories, often, but not always, as supplementary material;
- Finding and compiling lists of resources to recommend to students and academics (as subject librarian);
- Use of OpenStax, a free text book provider, where chapters can be downloaded, edited and reused;
- TEDx and Coursera;
- Khan Academy;
- Stack Overflow;
- Some people said that they specifically search for and use Creative Commons licensed materials e.g. might use two slides from such a licensed SlideShare presentation;
- Use of open source material from institutions;
- Finding resources to recommend to students as supplementary material.[35]

When asked how the test group share learning resources with one another, the following list presents how lecturers, teachers and students surveyed are currently sharing learning materials, but not necessarily OERs, with one another:

- Again, people are sharing PDFs, videos, images, presentations, links and lecture notes, through YouTube, SlideShare, Twitter, blogs, personal websites, Flickr, WordPress, and various repositories;
- Some shared through a specific channel on YouTube;
- Sharing through projects e.g. as part of team that created MyRI (on research metrics);

35 Cf. National Forum 2015.

- Through the creation of an online exhibition on WW1 that could be used by teachers;
- A few participants stated that they assign 'Creative Commons' licenses to their material for sharing.

Finally this research group were asked to comment on their use of OER repositories. Again respondents were initially unsure if they had interacted with repositories in the past, or if they have simply been re-directed there through Google or another search engine. Some identified social media platforms such as Twitter, Flickr, YouTube, etc. as repositories of OERs, however for custom-built OER repositories only, the following sites were mentioned:

- OER Commons;
- Google (including Google docs);
- UCD OER (wiki);
- MERLOT;
- Scribd;
- NDLR;
- JISC;
- Jorum;
- RCSI repository;
- HSE repository;
- RIAN;
- Deposit Ireland (TCD);
- HumBox;
- SoundCloud;
- Screencast;
- Personal websites;
- Wetpaint.

The main outcomes of this study highlighted the varying degree of understanding and experiences in relation to the use and sharing of digital resources and OERs in Ireland. The study showed some reluctance to engage with OERs caused by a variety of perceived barriers to the use of digital and open resources in formal education. Some stated one barrier was uncertainty about quality, unwillingness to use materials from other institutions' repositories; others noted their fear that their resources would be critiqued by 'experts' in the subject field if they were shared online (National Forum, 2015). Overall, the main finding from this study was the conclusion that from the 192 people surveyed, and the 35 individuals who also participated in a research focus group, the majority of participants noted a movement away from the use of OER repositories and towards more social online platforms, where informal networking and opportunities to provide and receive feedback on OERs produced is a feature of the platform.

References

Alison (2016): ALISON.com (2015) Available at: http://alison.com/, 01.06.2016.

Booker, E. (2013) Early MOOC Takes a Different Path. Available at: http://www.informationweek.com/software/early-mooc-takes-a-different-path/d/d-id/1108432, 01.06.2016.

Brown, M. (2014) Online Learning in the Irish Context: Presentation to Joint Committee on Education and Social Protection Available at: http://www.oireachtas.ie/parliament/media/committees/educationandsocialprotection/Presentation-DCU-Executive-Summary.docx, 01.06.2016.

Campus Entrepreneurship Enterprise Network (CEEN) (2014): Available at: http://www.ceen.ie/, 01.06.2016.

Casey, P. (2014) Ireland can play major role in Online Education revolution. Available at: http://www.independent.ie/business/irish/ireland-can-play-major-role-in-online-education-revolution-30137712.html, 01.06.2016.

Central Statistics Office (2014): Available at: http://census.cso.ie/sapmap2011/Results.aspx?Geog_Type=CTY&Geog_Code=11&CTY=11#T2_220, 01.06.2016.

Department of Education and Skills (2011): National Strategy for Higher Education to 2030. Available at: http://www.hea.ie/sites/default/files/national_strategy_for_higher_education_2030.pdf, 01.06.2016.

Higher Education Authority (2014) Higher Education System Performance: First Report 2014 -2016, Volume II, Institutional and Sector Profiles, 2011-12. Available at: http://www.hea.ie/sites/default/files/evaluation_framework_short_2011-12.pdf, 01.06.2016.

Higher Education Authority (2012): Part-time and Flexible Higher Education in Ireland: Policy, practice and recommendations for the future. Available at: http://www.hea.ie/sites/default/files/part_time_report_0.pdf, 01.06.2016.

Higher Education Authority (2009): Open and Flexible Learning. HEA Position Paper. Available at: http://www.hea.ie/sites/default/files/hea_flexible_learning_paper_nov_2009.pdf, 01.06.2016.

High Level Group on the Modernisation of Higher Education (2014): Report to the European Commission on new models of learning and teaching in higher education. Available at: http://ec.europa.eu/education/library/reports/modernisation-universities_en.pdfIrish, 01.06.2016.

Independent (2013): College Joins Online Learning Revolution with Free Course. Available at: http://www.independent.ie/life/family/learning/college-joins-online-learning-revolution-with-free-course-29068745.html, , 01.06.2016.

Lucey, B. M. (2013): Are MOOCs the future for the Irish Higher Education Sector?

Available at: https://brianmlucey.wordpress.com/2013/01/26/are-moocs-the-future-for-the-irish-higher-education-sector/, 01.06.2016.

National Forum for the Enhancement of Teaching and Learning in Higher Education (2015) Learning Resources and Open Access in Higher Education Institutions in Ireland. Available at: http://www.teachingandlearning.ie/wp-content/uploads/2015/07/Project-1-LearningResourcesandOpenAccess-1.pdf, 01.06.2016.

NDLR (2012): About the NDLR. Available at: http://www.ndlr.ie/services/ndlraboutus, 01.06.2016.

NDLR (2012): Google Analytics: Visitors Overview. Available at: http://www.ndlr.ie/artefact/file/download.php?file=20887, 01.06.2016.

NDLR (2012): Available at: http://dspace.ndlr.ie/handle/10633/3473, 01.06.2016.

7. Use and Implementation of OERs in Italy

(Valeria Damiani / Gabriella Agrusti / Elisa Muscillo)

7.1 Brief state of the art of OERs and policies for mainstreaming ICT in Italian schools

OER development and usage in Italian classrooms is strictly linked to the implementation of educational policies in the field of ICT by the Ministry of Education (MIUR). These policies are mainly focused on three main strands:

1. the introduction of new teaching practices related to the use of technology;
2. the provision of professional trainings for teachers in order to allow them to use ICT in classrooms effectively;
3. the allocation of digital equipment to schools.

According to an OECD questionnaire on some relevant policy developments regarding Open Educational Resources, Italy is still lacking a national strategy for OERs and only few activities related to this topic for ISCED levels 1, 2 and 3 are reported.[36] This scenario is slightly different for higher education, since most universities have their own repository of open educational resources, but certainly they cannot be used as teaching or learning resources in schools.

Although the issue of OERs creation and implementation is only superficially addressed in Italian educational policies, its potential circulation and actual employment in classrooms is strongly connected to teachers' ability in using ICT and to innovative practice that involve ICT and its related resources in teaching.

The first initiatives for ICT in education carried out at national level were mainly focused on teachers' professional development in the field: the "National plan for Informatics" (1985), devoted to teachers of mathematics and sciences in upper secondary schools; the "Programme for the Development of Educational Technologies" (early 1990s) aimed at fostering teachers' professional development and offering schools support to create computer laboratories; the "For TIC" programme (2000 and again in 2007 but only for science and technology teachers of all school levels) trained 180.000 teachers of all disciplines.[37]

Along with these national actions, local authorities (regions, provinces and communes) and single schools have implemented other initiatives in the field of ICT for education.

36 Cf. Hylén et al. 2012.
37 Cf. Schietroma 2011.

Since the education system in Italy is organized according to the subsidiarity principle and autonomy of schools, the state has exclusive competence on general issues of education, on minimum standards to be guaranteed throughout the country and on the fundamental principles that regions should comply with within their areas of authority. Schools are thus autonomous in the areas of curriculum planning, didactics, organization and research and can autonomously raise funds to improve infrastructures and equipment from private organizations or public authorities.

The policies and actions carried out by local authorities and single schools highlight different scenarios in the field of ICT education development in Italy, with schools in the rich areas of the country (i.e. Northern Italy) having more opportunities to access funds than the ones in the South.

However, since 2007, some Southern regions, i.e. the "convergence regions"[38] (namely Calabria, Campania, Puglia, and Sicilia) have been benefiting from European regional structural funds to invest in teachers' professional development and in school improvement projects. The European regional structural funds are managed centrally through the National Operating Plan (Piano Operativo Nazionale – PON). The Digiscuola initiative, for instance, involved 3.500 teachers of mathematics and Italian at upper secondary level in 2007, equipping their classes with IWBs (Interactive Whiteboards), and developing blended learning programme for teachers.

In 2007 the National Plan for Digital Schools (Piano Nazionale Scuola Digitale) was launched with the aim to introduce, for the first time in Italy, the use of ICT equipment directly in the classrooms (and not only in separated computer laboratories as the previous initiatives envisaged) for all subjects and at all levels of school education. In mainstreaming ICT in Italian classrooms, technology becomes a tool for innovation in order

- to implement new teaching practices (e.g. promoting personalised educational paths and active learning),
- foster ICT skills and digital literacy in Italian students and teachers,
- envisage new models of school organisation,
- create new products and tools to support quality teaching.

The National Plan for Digital Schools still represents the guideline document for the new educational initiatives developed by MIUR in relation to ICT mainstreaming in Italian classrooms in the recent law 107/2015.

Schools could participate on a voluntary basis in the National Plan through one of the 4

38 Convergence regions are defined as those regions having per capita gross domestic product (GDP) less than 75% of the average GDP of the EU-25 (Commission Decision C(2006)3475 of 4th August 2006). http://ec.europa.eu/research/index.cfm?pg=faq&idfaq=37004

actions envisaged for the period 2008-2012:[39]

1. Action IWB (interactive whiteboards, Piano LIM). With the IWB action, the Ministry of Education provided classrooms with a dedicated technological kit (that included a computer and an interactive whiteboard) and offered a specific teacher training for teachers of the selected classes carried out by INDIRE (National Institute for Documentation, Innovation and Educational Research). According to the OECD, in 2012 the total number of IWBs was about 70.000. In addition to this, 35.000 classrooms (10.9%) were equipped over 4 years and 64.456 teachers trained.[40]
2. Action cl@sse 2.0. This action aimed at piloting projects in selected schools with the ultimate goal of creating and implementing ICT-rich learning environment in one class over 2-3 years and thus identifying effective approaches for embedding ICT in classrooms activities. The programme started in 2009 for lower secondary schools and in 2010 for primary and upper secondary schools and involved 416 classes (0.1%) in 416 schools (ivi).
3. Action scuol@ 2.0. This action, started in 2011, followed the main goals of the programme cl@sse 2.0 but was intended to be developed at school level connecting instructional innovation through ICT with new organizational models (both in terms of equipment and human resources management). Only 14 schools were involved in this action (ibidem).
4. Action Digital Publishing (Editoria digitale). Launched in 2010, it aimed at the creation of digital resources/textbooks in 20 schools for different subjects and grade levels, in order to stimulate contents development for technology-rich classrooms.

The National Plan for Digital Schools was combined with other related initiatives in the years 2013-2014. Two of them are strictly related to OERs development and implementation in classrooms:

- the wi-fi action, aimed at providing schools with wi-fi connection (1.554 projects financed),
- the action on teachers' training centres (Azione Poli Formativi), i.e. schools in charge of creating and managing courses on ICT for teachers (2.473 tutors' applications).[41]

In its "Review of the Italian Strategy for Digital Schools" (2013), the OECD defines the National Plan for Digital Schools "a well-designed Plan with big budget constraints" (p. 11) that limit the effectiveness of its diverse initiatives. One of the main effects related to budget constrains is the slow introduction of ICT equipment in Italian classes. For instance in

39 Cf. MIUR, 2015.
40 Cf. OECD, 2013, p. 18.
41 Cf. MIUR, 2015.

2012, only 22% of Italian classrooms (at most) were equipped with interactive whiteboards (LIM). Moreover, when it comes to equipment and usage of information and communication technology in school, Italy still lags behind most OECD countries (for example, in 2011, only 30% of Italian students in 8th grade used ICT as a regular instruction tool in science classes, compared to 48% on average in OECD countries).

Further, according to the OECD report, the provision of professional development initiatives, in order to support teachers in the use and in the integration of technology and digital resources into their teaching practice, does not meet the scale of actual professional development needs.

The weak professional development provision is combined with an insufficient number of open educational resources (OERs) in Italian language available for teachers and educators. Although school publishers are increasingly developing digital resources, OECD stresses the lack of a national bank of digital pedagogic resources that can support teachers in developing and exchanging OERs and sharing experiences on their implementation in classrooms. In order to speed up the process of OERs development in Italian language, the OECD suggests to identify and translate some of the most relevant high quality resources available in other languages, and to adapt them to the Italian culture and curriculum.

7.2 Recent development in Italian Educational policy on OERs

As already mentioned, the National plan for Digital schools[42] still represents the guideline document for the new educational initiatives developed by MIUR in relation to ICT mainstreaming in Italian classrooms and has been included in the recent law 107/2015, derived from the initial planning document, open to a public consultation, La Buona Scuola (2015). The new actions of the National Plan, that have been carrying out since 2015, are benefiting from European Structural Funds related to the programming period 2014-2020 and from funds allocated to schools in the Law 107/2015. In this recent phase, the National Plan promotes in Italy the diffusion of several initiatives, and among the others the use of OERs at school. This initiative represents the latest and most relevant action for OERs development in Italy.

After presenting the need for minimal requirements and standard for enhancing a wide use of digital resources in article #22, including norms against gender-bias and invasion of privacy, the plan points out that the context of use of OERs can be sensibly differentiated and it influence the effectiveness of the resources in action.

In Action #23 of "Scuola Digitale", i.e. the action on the promotion of OERs and guidelines for supporting OER development, a first discrimination between two categories of OERs is made: the ones linked to the school curricula development and those that can be

42 Cf. http://www.istruzione.it/scuola_digitale/allegati/Materiali/pnsd-layout-30.10-WEB.pdf.

use as integrative resources for in-depth analyses of specific topics or skills. The first should be used for formal education courses and the latter can be used for informal learning experiences. Additionally, other possible classifications are proposed, according to format, target group, topic, "granularity" and so on.

Precisely for granularity, the major strength identified in OERs is their "molecular" nature, in terms of flexibility of application and possibility to adapt them according to the specific constraints of the learning context and target group needs'. The objectives of Action #23 are to foster the use of online repositories for OERs and, together with the AGID – Agenzia per l'Italia Digitale[43], support the use of specific technical standards for these. Interestingly, the policy paper mentions also the need for guidelines to help teachers and educators in producing new OERs. A detailed description of the OER produced, including its metadata, must be provided and to this aim, an in-depth analysis on ontologies and repositories will be produced. However, the definition selected for the OER is controversial, as it also includes commercial materials that are not "open", strictly speaking, according to UNESCO[44].

Finally, in article #24, school libraries are envisaged as best environments for accessing and using OERs, envisaging a consistent fund investment in order to create networks of these institutions overall Italy. In this field, the National Plan intends to present a national strategy for the enrichment of school libraries through their openness to digital content. The challenge, still open, is to provide schools, through targeted investments and ad hoc agreements, the conditions for becoming centres for lifelong learning in the local community.

7.3 OERs and MOOCs developed in Italy: some relevant examples

Although the absence of specific national guidelines on Open Education, several initiatives related to OERs and MOOCs creation, have been implemented throughout the country and are addressed to a wide range of audience (teachers, students of all cycles of instruction, adults).

The following table includes some relevant examples of OERs repositories and MOOCs developed in Italy and available in Italian language.

Name	Target group	Topics

43 http://www.agid.gov.it.
44 http://unesdoc.unesco.org/images/0021/002158/215804e.pdf.

Oil project (http://www.oilproject.org/)	School and university students	Biology, Chemistry, Philosophy, Physics, Economics, Business, Italian literature, English, Maths, Science, History
"School values. Resources for students" – "Scuola Valore. Risorse per studenti" developed by INDIRE (National Institute for Documentation, Innovation and Educational Research)	students of the first two years of upper secondary education	Italian language, Mathematics, English language, Physics
"School values. National resources for teachers" – "Scuola Valore. Risorse nazionali per docenti" developed by INDIRE (National Institute for Documentation, Innovation and Educational Research)	teachers and educators from all educational cycles (from elementary to upper secondary education)	Reading, Mathematics and Science
Geometry MOOC developed by Polytechnic University of Turin (http://www.difima.unito.it/mooc/)	Teachers from first and second cycle of instruction	Pedagogical practices for teaching Mathematics
PoliMi Open Knowledge developed by Polytechnic University of Milan (https://www.pok.polimi.it/)	Upper secondary education students and teachers; adults	Maths, Physics, Architecture, Business and Management, Soft skills development
Introduction to Italian developed by Foreigners University of Siena (http://www.unistrasi.it/1/599/3444/Introduction_to_Italian.htm)	Learners of Italian as a second language	Italian language (level A1 and A2)
TRIO Project (progetto TRIO) developed by Tuscany region (http://www.progettotrio.it/trio/)	Young and young adults	Agriculture, Health Languages, Environment, Self-empowerment, Public administration, ICT, Business and management
Federica web learning platform, developed by University of Naples Federico II (http://www.federica.unina.it/)	university students	Resources on several academic courses: Agrarian, Architecture, Business, Pharmacy, Law, Engineering, Humanities, Medicine, Veterinary, Biotechnology, Science, Mathematics, Political Science
federica.eu, developed by University of Naples Federico II (http://www.federica.eu/mooc/)	university students	41 MOOCs on different subjects from history of Roman Law, to Biochemistry, to Veterinary Medicine etc.

Table 16: Italian OER

7.4 Italian teachers' perspectives on OERs

In the framework of the EU-StORe project, a survey on 77 voluntary teachers, trainers, educators and adult learners in the field of education carried out in Italy highlighted several relevant features of teachers' perspectives on OERs.

The group of respondents was composed mostly by women (65 respondents, average age 32.5, SD = 10.5). This data is similar to the national situation, where only 19% of teachers are men[45]. On the contrary, in interpreting the following results it has to be considered that the average age of Italian teachers is higher (49). In the group, only 2 were responsible for ICT in their school and only 1 was head teacher.

Generally, respondents demonstrates a non-familiarity with the OER concept (47 respondents) even though they deem it relevant for disadvantaged learners and for their own professional development and half of them declares to use OERs often or very often (38). The most important feature envisaged in OERs is the fact that they are free of charge (63) and they are generally positive on the possibility of using OERs produced by others (59).

In open-ended answers, respondents confirm their distance from OERs, dividing between a general appraisal (usefulness to broad the perspective on content and teaching strategy, to update techniques) and some perplexity on their reliability and actual effectiveness ("naturalmente la necessità di vagliare i contenuti e le mode (in didattica)", i.e. "there is obviously the need to check contents and 'fashion trend' (in pedagogy)".

All respondents would use OER produced by other professionals and/or institutions, and even if probably, it can be envisaged a social desirability effect in answers, the use they declare of OER has a medium to high frequency as modal value. Teachers deem Italian OERs and MOOCs of medium to high quality. The Italian OERs teachers seem to have wider access are those produced by teachers and learners themselves.

For what concerns EU-StORe quality criteria for OERs, the top 3 criteria selected by Italian teachers were:

- Aims and learning outcomes of the OER (71 respondents)
- Technical support concerning the OER (72 respondents)
- Target groups of the OER (70 respondents).

Among reasons that could push educators and future educators to share OER there are the gratuity of the materials and the possibility of saving time gaining on someone else's experience. Problems highlighted are instead the absence of controls and verification on the adequacy and reliability of the information, and the possibility of having technical problems in the use of the resources.

45 http://www.anief.org/content_pages.php?pag=8046&sid=

These answers suggest that the direction taken at policy level could find a good response in teachers. Nevertheless, the confusion at the theoretical level demonstrates that, in order to be successful, initiatives to support OERs in Italy must be accompanied with professional development specific courses for pre-service and in-service teachers. As shown before, the OERs scenario in Italy is lively and rich of repositories at academic and at policy level but it is still a sporadic set of opportunities that would need organic framework to be fruitfully used.

References

Avvisati, F. / Hennessy, S. / Kozma, R. B. /Vincent-Lancrin, S. (2013). Review of the Italian Strategy for Digital Schools. OECD Education Working Papers, No. 90, OECD Publishing.

Hylén, J., Van Damme, D., Mulder, F., D'Antoni, S. (2012). Open Educational resources: analysis of responses to the OECD country questionnaire. EDU Working Paper 76, available at http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2012)13&docLanguage=En.

Schietroma, R. (2011). "Piano Nazionale Scuola digitale". Annali della Pubblica Istruzione, 2, 15–27.

8. Use and Implementation of OERs in Malta

(Philip Bonanno)

What is the role of Open Educational Resources (OERs) in promoting Educational renovation in Malta? Is it possible to use OERs to provide educational experiences capable of enriching and possibly transforming formal and informal 21st century learning? How can OERs be integrated within the curriculum of the different levels of the Maltese Educational system? These are some key questions that are currently being debated locally and are provoking various innovative initiatives in integrating OERs in the educational process.

The main focus of an effective and relevant educational process is the development of knowledge society skills, with digital competence having both a leading and an enabling role. International reports such as 'Digital Education – Making the change happen';[46] UNESCO ICT competence for teachers,[47] the on-line document from the 'Partnership for 21st century skills', European Commission policy report (2013): 'DIGCOMP: A Framework for Developing and Understanding Digital Competence in Europe' emphasise a developmental approach to bring about renovation of education. Digital technologies and open educational resources serve as major catalysts in bringing about pedagogical innovation. Schools need to be changed from teaching institutions, driven by content-centred, teacher-directed approaches, to learning institutions where student-centred methodologies use the context of curricular subjects to nurture identified knowledge society competences.

Student-centred approaches promote the direct involvement of learners in deciding the content of learning, the pedagogical strategy and the mode of assessment. This pedagogical shift is discussed in detail in the above mentioned documents that propose an evolutionary process along a three stage developmental trajectory. During the initial **Technology Literacy** stage learners develop competences in using various digital technologies to learn, communicate and share their experience more efficiently. In the second **Knowledge Deepening** level learners acquire in-depth knowledge of their school subjects and apply it to complex, real-world problems using digital technologies and related OERs. The third level focuses on **Knowledge Creation** and serves to develop competences to create the new knowledge required for more harmonious, fulfilling and prosperous societies. This latter process is characterized by creative, self-directed and reflective learning approaches mediated through knowledge building and sharing tools.

In this evolving process digital technologies and open educational resources catalyze and drive the pedagogical change from one focused on knowledge acquisition to one based on knowledge application and creation. The current predominantly teaching-centred approach should be complemented with truly student-centred approaches that employ digital technologies to mediate different modes of learning and assessment. Consequently the ability to

46 Cf. MCEETYA 2008.
47 Cf. Hine 2011.

identify, use, evaluate and create OERs becomes a mandatory competence to be developed and refined throughout the educational process, and in particular with the professional development of teachers. The perennial need for innovating teaching and learning practices brought about by the constant change in the nature and organisation of knowledge, the continual emergence of new digital technologies and accompanying nascent behaviours, and the affinity of the younger generations with technology can only be mitigated by adopting a learning design attitude and approach that exploits the full potential of OERs.

OERs in Malta

The integration of OERs in the local educational context is increasingly taking place both through top-down policy initiatives and also through bottom-up innovative practice. Institutions of higher education in Malta (Eg. University of Malta, Malta College for Arts, Science and Technology, Institute for Tourism Studies, Private Higher Education Institutes) all follow a policy that promotes the integration and use of OERs in their academic curricula. For example most of these entities use Moodle, an open on-line virtual learning environment, as the institutional course management platform. The official policy of the University of Malta is to promote the use of OER. Thus, besides adopting Moodle as the official VLE, currently there is a drive to introduce Mahara as the official ePortfolio system and to promote the use of Google Educational Apps with all the academic staff of the University. Training courses are organised by the 'IT Services' Support Unit to introduce academics to these OERs and provides continuous assistance when these tools are being integrated and implemented in their courses. The Faculty of Education extends this policy a step further by promoting the use of OERs in the various programmes of studies. In the undergraduate programme, students follow units MSL 4203: 'Introduction to Technology-Enhanced Learning' which promotes the use of OERs in teaching and learning. The study unit MSL4205 (Designing TEL) trains students in using OER to design learning activities for promoting different modes of learning (i.e. learning by Instruction, Exploration, Designing, Collaboration, Reflection). Course unit MSL 4206 (Open Education: Building Resources for the Open Community) familiarise students with available OERs that promote social interaction, communication and sharing of knowledge and experience. The ultimate aim is to promote a culture for building and sharing OER with local and global communities. The Faculty of Education also provides two Masters programmes, a taught Masters in 'Technology-Enhanced Learning and Innovation' and a 'Masters in Digital Literacy and Education' by research. In these Masters courses OERs are extensively used in their methodology integrating existing OERs but also creating, curating and sharing new OERs

An interesting situation regarding OERs is currently evolving within the primary Education sector in Malta. As part of the national strategy to introduce eTablets for each student, a pilot project has been carried out to evaluate the different aspects of tablets and their use in the curriculum. The Directorate for Quality and Standards in Education always

promoted the use of OERs in schools, especially through ICT support teachers. The tablet project moved the onus onto the teachers who, besides the suggestions from the ICT support teachers, they have to search, familiarise and use different categories of OER in their classes. The most curious aspect was that those teachers (and their classes), who were given tablets with access restricted solely to brand or company-related resources and apps, felt the great limitation of not being able to access and use open on-line educational resources. They denounced the fact that their tablets were restricted from using freely available resources as compared to those classes given unlocked tablets. Teachers are communicating and interacting in their professional networks promoting the use of OERs with the rolled-out tablets. So, they are advising authorities to adopt brands of tablets that follow an open policy regarding OERs. This grassroots experience is accelerating the adoption and use of OERs creating an urgent need for evaluation models and guidelines from initiatives like the EU-StORe project.

Integrating OERs within the Faculty of Education.

The Faculty of Education is continually challenged to address the evolving needs of the various student cohorts. The development of digital competences and the integration of 21st century skills within formal educational contexts top up the list. OERs are continually identified and evaluated to propose to student-centred learning possibilities to the various academic courses in initial teacher education and continual professional development of practicing teachers. The local pilot project about the implementation of the e-tablet has clearly revealed the need for a shift in teachers' role with regards to OERs, moving from consumers to promoters and creators of OER. Dhanarajan & Abeywarden 2013[48] state that 'teachers' lack in own skills was a leading barrier against creating OER, and lack in ability to locate quality OERs was a leading barrier against reusing OER.' Stracke & Koskinen 2015, in their eLearning Paper: 'Open Learning and Its Future of Assessment, Certification and Quality Assurance' show the need to develop guidelines to assist teachers:

"*The rationale for developing these Guidelines for teachers as creators of their own OER is essentially to broaden the author-base to involve teachers as reflective practitioners.....*

Developing a culture of quality through teacher continuous professional reflection may be the best way forward rather than simply aiming to digitally store somewhat permanently an individual teacher's own lesson materials."[49]

The same authors also describe the beneficial effect of OER for independent, life-wide and life-long learning:

"*Good quality OER can widen informal access to education through independent study and*

48 Dhanarajan / Abeywarden 2013, p. 9-10.
49 Stracke / Koskinen 2015, p. 3.

widen formal access through prior learning. Good quality OER can also prevent dropout from formal education through offering remedial study resources."[50]

Thus one has to evaluate OERs in relation to the competences that need to be nurtured in the various University courses, CPD initiatives and even informal educational contexts.

The integration of OERs within the courses of the Faculty of Education at the University of Malta is guided by a Connectivist process-oriented methodology applied to the theoretical and policy framework outlined above. Beyond basic use for content acquisition characterizing the **Technology literacy** pedagogical level, OERs are used in the **Knowledge Deepening and Creation** pedagogical levels to promote knowledge society competences. For example, the Mahara ePortfolio is used, not just to showcase knowledge acquisition, but more important to promote autonomous learning, collaborative learning, individual and collective knowledge building and reflections, and the nurturing and managing of interactions within social networks. These individual, collective and distributed processes are the main outcomes of using this educational resource. The same principle can be applied to MOOCs in which personal and collaborative interactive experiences complement the acquisition of domain knowledge.

OERs can thus be categorized and subsequently used in teaching and learning considering the competences these can promote (the what) through the various pedagogical strategies proposed to the user (the HOW). Thus the integration of OERs within relevant courses in the Faculty of Education results from the integration of knowledge society competence frameworks with process-oriented pedagogical models, such as those proposed by Bonanno 2011 & 2015[51], that organise learning and its assessment along different pedagogical levels (acquisition, participation and contribution) and dimensions of interactions (domain, technology and community). The choice of the Mahara ePortfolio (MeP) was driven by the pedagogical need to develop the following competences: autonomous, collaborative and reflective / critical learning, knowledge building and sharing, technology-mediated communication and self-promotion skills, networking and community building. The MeP provides the necessary tools to organize acquired knowledge and connections, participate with others during collaborative knowledge building and facilitates user's contribution to this collective knowledge building process. Thus, the MeP is a tool that is both mediating and recording all the interactions carried out with any particular theme / topic considered (domain), within the MeP and with other digital tools beyond the MeP. The MeP mediates and also records the interactions a learner experiences within the contiguous learning group, with on-line learning communities and with domain experts.

The 'DigiComp framework[52] and the 'Framework for 21st Century learning' (P21Org, 2010) are being used by the Faculty of Education to identify the competences that should

50 Stracke / Koskinen 2015, p. 3.
51 Cf. Bonanno 2011 & 2015.
52 Cf. Ferrari / Punie / Brečko 2013.

be developed in initial teacher education and CPD through OERs. The P21 framework identifies a number of core subjects and 21st century interdisciplinary themes, together with three major competence categories, 'Life and Career skills', 'Learning and Innovation Skills' and 'Information, Media and Technology Skills'. The Digicomp framework details the various aspects of digital competence by categorising 21 competences into the following five major categories: Information, communication, content-creation, safety and problem-solving. Each of the competences is described in terms of knowledge, skills, and attitudes. These competence frameworks will be briefly described in the context of initial teacher education and CPD initiatives within the Faculty of Education. Examples of identified OERs are given for each category.

The P21 framework identifies the following core subjects: English, reading or language arts, World languages, Arts, Mathematics, Economics, Science, Geography, History, Government and Civics. '21st Century Interdisciplinary Themes' include Global Awareness, Financial, Economic, Business and Entrepreneurial literacy, together with Civic, Health and Environmental Literacy. Some OERs proposed for core subjects (areas of specialization for the Secondary level) and Interdisciplinary themes in Initial and In-Service teacher Education include:

- Resources for curricular subjects in Maltese Secondary Schools:
  http://curriculum.gov.mt/en/Resources/Further-Resources/Pages/default.aspx
- For teachers of Nutrition, Family and Consumer Sciences / Home Economics:
  An Introduction to Consumer Neuroscience & Neuromarketing
  http://openeducationeuropa.eu/en/mooc/introduction-consumer-neuroscience-neuromarketing
- For teachers in Environmental Science: Introduction to Sustainable Development:
  https://www.coursera.org/learn/sustainabledevelopment1
  AND 'Learning for Sustainability: Developing a personal ethic':
  https://www.coursera.org/course/sustainability
- For teachers of Science and Environmental Science: Energy and the Earth
  https://www.coursera.org/course/earthenergy
- For teachers of Business Studies: Essentials of Entrepreneurship - Thinking & Action
  https://www.coursera.org/learn/entrepreneurial-thinking

With regards to 21st century competences, the Learning and Innovation competence includes 'Creativity and Innovation' manifested through critical thinking and problem solving and through communication and collaboration. One's creative and innovative potential is shown through creative thinking, creative collaboration and the ability to implement innovations. 'Critical thinking and problem solving' involves one's ability to reason effectively, use systems thinking, make judgment, take decisions and solve problems. 'Communication and collaboration' involves the ability to communicate clearly and to collaborate with others. Examples of OERs that can be used to promote Creativity and Innovation with B.Ed (Hons) students as part of their course units in 'Methodology' and 'Education

Studies' are:

- Courses / activity units from the Open University UK, within the Jorum OERs database: (http://www.jorum.ac.uk/?_ga=1.18597434.286798874.14687431610) in Design, Invention and Innovation, Making the Creative Process Visible, and Groups and Teamwork.
- Effective Problem-Solving and Decision-Making: https://www.coursera.org/learn/problem-solving
- Critical Thinking - Reason and Fair Play in Communication: https://iversity.org/en/courses/critical-thinking-reason-and-fair-play-in-communication-may-2015
- Learning Design for a 21st Century Curriculum: http://www.olds.ac.uk/home
- Introduction to Communication Science: https://www.coursera.org/learn/communication

The second category in the P21 framework comprises competences in Information, Media and Technology. Information literacy includes one's ability to 'access and evaluate information' and 'the ability to use and manage information'. Examples of OERs used to promote competences in finding and using information, and for creating content include:

- Being Digital Activities from Open University, UK: http://www.open.ac.uk/libraryservices/beingdigital/activities
- Workshop plans from University of Manchester UK, within the Jorum OERs Database (http://find.jorum.ac.uk/collections/idls?_ga=1.110243462.286798874.1468743161) about Academic Writing, Successful Searching, and Presentation Skills.

Media literacy involves one's ability to analyze media and to create media products. OERs directly related to this competence for B.Ed (Hons) students include:

- Courses / activity units from the Open University UK, within the Jorum OERs database: (http://www.jorum.ac.uk/?_ga=1.18597434.286798874.14687431610) in Creating open educational resources.
- Designing Online Courses with the 7Cs Framework: http://openeducationeuropa.eu/en/mooc/designing-online-courses-7cs-framework

ICT literacy is manifested through one's skill in applying digital technologies effectively as a tool to research, organise, evaluate and communicate information and to communicate and network with others. OERs used within course units about Technology-Enhanced Learning at the Faculty of Education, UoM include:

- ICT in Primary Education: Transforming children's learning across the curriculum:
  http://openeducationeuropa.eu/en/mooc/information-and-communications-technology-primary-education-transforming-childrens-learning-cur
- Getting started with On-line learning:
  https://www.futurelearn.com/courses/online-learning.
- Integrating Learning Technologies:
  https://sites.google.com/site/iltmsl420520145/unit-info
- Open Course in Technology-Enhanced Learning from the 'Association for Learning Technology':
  http://openeducationeuropa.eu/en/mooc/octel-open-course-technology-enhanced-learning
- MOOC on Open Education:
  http://openeducationeuropa.eu/en/mooc/mooc-open-education
- Social Media for Learning by Means of ICT:
  http://lms.iite.unesco.org/?lang=en
- Introduction to Cybersecurity:
  https://www.futurelearn.com/courses/introduction-to-cyber-security

Life and Career skills refer to one's ability to navigate the complex life and work environments in the globally competitive information age requiring flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and accountability, together with leadership and responsibility. Initiative and self-direction is shown through one's ability to manage goals, work independently and manage own learning.

OERs that can be used to develop this competence include:

- Study Skills for Academic Success:
  http://openeducationeuropa.eu/en/mooc/study-skills-academic-success-3rd-edition
- The on-line course about 'Assessing Professional Learning' from The Department of Education and Training, Victoria State Government, Australia that links assessment with professional development:
  http://www.education.vic.gov.au/school/teachers/support/Pages/prep10proflearn.aspx
  It includes units about Connecting assessment with learning, Assessment OF learning, Assessment FOR learning, Assessment AS Learning, and Making Consistent Judgements.

Social and cross-cultural skills are manifested by one's ability to interact effectively with others and work effectively in diverse teams. Productivity and accountability is shown by skills in managing projects and produce results. Leadership and responsibility involve skills for guiding and leading others and for being responsible to others. The MOOCs about the

foundations of Teaching for Learning from the Commonwealth Education Trust (https://www.coursera.org/course/teach) explore these relevant themes for developing professional teachers. The eight MOOCs discuss 'Introducing Teaching and Learning', Being a Teacher', 'Learners and Learning', 'Curriculum', 'Planning for Teaching and Learning', 'Introduction to Assessment', 'Being a Professional', and 'Developing Relationships'.

Conclusion

The adoption and use of OERs in Malta is following a natural evolutionary route. The need to innovate the educational process, especially through the introduction of digital technologies and resources, is creating a set of learning needs and contexts at all levels of formal education and informal learning. The introduction of e-tablets in the primary created a dire need for OERs to address the differentiated class environments. In secondary schools, teaching and learning curricular subjects is increasing being enhanced with on-line digital tools and resources. Tertiary education is being used to promote and model the competences professional should acquire, practice and develop in their students. So, OERs have to be identified to be used to develop these varied competences in teaching and learning. The competences needed to identify, evaluate and integrate OERs in professional practice are increasingly becoming key elements in the professional development of teachers. The EU-StORe project provides a systematic approach to deal with this emerging need.

References

Bonanno, P. (2011): A Process-oriented Pedagogy for Ubiquitous Learning. In: Kidd, T. / Chen, I, (Eds.): *Ubiquitous Learning: A Survey of Applications, Research, and Trends.* Information Age Publishing 2011. p. 17-35.

Bonanno, P. (2015). Assessing Technology-Enhanced learning. In: Koc, S. / Wachira, P. & Liu, X. (Eds.): Assessment in Online and Blended Learning Environments. Information Age Publishing (In print). 2015.

Dhanarajan, G. / Abeywardena, I. S. (2013): Higher education and open educational resources in Asia: An overview. In: Dhanarajan, G. / Porter, D. (Eds.): Open educational resources: An Asian perspective, (pp. 3-20). Vancouver, BC: Commonwealth of Learning. Retrieved July 7, 2014, from http://www.col.org/PublicationDocuments/pub_PS_OER_Asia_web.pdf, 01.06.2016.

Ferrari, A. / Punie, Y. / Brečko, B.N. (2013): DIGCOMP: A Framework for Developing and Understanding Digital Competence in Europe. Report EUR 26035 EN. European Commission, Joint Research Centre, Institute for Prospective Technological Studies. 2013.

Hine, P. (2011): UNESCO ICT Competency Framework for Teachers. UNESCO, Paris 2011.

MCEETYA (2008): 'Digital Education – Making the change happen'. *Ministerial Council on Education, Employment, Training and Youth Affairs.* URL: http://aictec.edu.au/wp-content/uploads/Digital-Education-Making-Change-Happen.pdf, 01.06.2016..

P21Org (2010): http://www.p21.org/, 01.06.2016.

Stracke, C. M. / Koskinen, T. (2015): eLearning Paper: Open Learning and Its Future of Assessment, Certification and Quality Assurance. Downloadable from: http://www.openeducationeuropa.eu/sites/default/files/old/Assessment%20certification%20and%20quality%20assurance%20in%20open%20learning_40.pdf, 01.06.2016.

9. Use and Implementation of OERs in Romania

(Carmen Duse)

The problem of using OERs in Romania is and will remain a great challenge. The few steps made so far towards informing, popularizing and applying these resources create an acute need to accelerate this process, so as to make professors understand, on the one hand, the need to introduce open educational resources and on the other hand, the current inadequacy of the teaching-learning-evaluating process for the needs of the current generations.

The biggest advantage of these OERs is that they can be used in any kind of format, allowing the personalisation of education even for each type of student, if needed, and for each type of educational environment.

The large variety of shapes in which these OER exist, from written texts, lecture notes, tests, audio and video files, projects, case studies etc. allow the professor a larger array of options, that can be a real benefit for all students, including here those with special needs.

On a European level, there was a preoccupation to introduce and support open education through promoting open educational resources. Thus, starting even from 2013, the European Commission launched Open Education Europa as part of the Opening up Education initiative to provide a single gateway to European OERs. The main goal of the Open Education Europa portal is to offer access to all existing European Open Educational Resources in different languages in order to be able to present them to learners, teachers and researchers. Unfortunately, of the more than 800 OERs offered, only 6 are in Romanian language and among the universities offering OERs there is not a single Romanian university.

In 2008 Creative Commons Romania was launched in Romania with the help of ApTI (The Association for Technology and Internet).

For Romania, the problem is even more serious because of a relatively new law of education, Law no.1 of 2011. In its educational policy the education ministry through its representatives from that time has not included a consistent chapter for this subject. There exists in the law, however, a reference to the Virtual School Library, mentioning that: (art. 70, paragraph 2) "There will be founded the Virtual School Library and the School E-learning Platform, that include school programs, examples of lessons for all topics from the school programs, methodological guides, examples of evaluation tests. These digital resources will be protected by Law no. 8/1996 regarding copyright and associated rights, with the later modifications and additions, the Ministry for Education, Research, Youth and Sports obtaining the publishing rights from the authors, so that these resources are available permanently and for free to any student or professor."

The responsibility for founding, managing and continuously enriching the Virtual School

Library and the School E-learning Platform should have been with the Ministry of Education, Research, Youth and Sports. However, even in 2016, things have not yet really taken shape.

Undoubtedly, it is necessary to grant more attention to this chapter, because the usage of OERs would open the access to schooling to a much larger number of children, teenagers, youths and even adults, as we see that a large part of these give up education for various reasons.

In 2013, the Soros Foundation Romania, the Association for Technology and Internet and the National Association of Librarians and Public Libraries of Romania have set as goal the creation of a Coalition for Open Education Resources, called the OER Coalition Romania. This has organised the first edition of the Open Education Romania Conference and organised several local meetings in the second half of 2013 and first part of 2014. After the Conference, a few persons and organisations joined.

However, the Coalition's activity has not continued in a sustained manner. Starting with 2015 an increase in the interest of the Romanian society for open education could be noticed. A series of initiatives have taken shape, such as the Open Education Conference, while the Foundation for an open society has aimed at facilitating the relaunching of the OER Coalition, initiating a dialogue among those interested. Details of the activities of this foundation can be found on the facebook page: https://www.facebook.com/groups/467197926713726/

In 2015, the Coalition for Open Education Resources has sent a letter to the minister for education of that time, emphasising the importance of OER and of the ministry's involvement in their support. It mentioned digital and open school libraries and school textbooks, indicating that, up to that date (and even up to the current date), the textbooks are not truly open in a technical and legal sense. Also, it demanded the publication of open education resources produced within projects financed by European funds under a free license, as the POSDRU/POCA projects have as result educational materials. This will allow the possibility of creating a document fund, by adding all these educational materials.

Another wish expressed in this document was related to the publishing of doctoral theses with free access on a platform managed by the Ministry of Education, as is specified by the Law of Education no. 1/2011.

By means of these associations a Good Practices Guide was created that comprises information on copyrights, free licenses and open educational resources and that can be downloaded as .pdf or .odt from the website: http://www.acces-deschis.ro/ro/oer.

Also, the guide contains several examples of good practices with regard to open education, in Romania and in the world.

Another important and visible initiative for promoting OER was by the Romanian Institute for Adult Education – IREA, that, beneath other partners from Germany, Italy and the United Kingdom, is developing between September 1st, 2014 and August 31st, 2016 a blended-learning type training programme for adults, dedicated to teachers and to the personnel and management of the education institutions for adults, called OERup! (www.oerup.eu)

The goal of this programme is to support the usage and development of Open Education Resources (OER), and the application of the Open Education Practices (OEP) in adults education. Anyone can enrol on the platform and can attend the OER uptake in adult education courses. The chapter titled "Evaluating OER" proposes a set of quality criteria regarding content and format, after Pérez-Mateo et al.[53].

Another form of promoting OER is that of the Center for Public Innovation. This is a private law association, a juridical non-profit, non-governmental, non-political organisation without patrimonial goal, with the motto: We reinvent the public space. As a member of the Coalition for Open Data and then of the OER Coalition, the centre aims at promoting open education, adopting the principles of open education in a political document at high level, creating a virtual school library, the national portal for open education resources envisioned in the Law of Education no. 1/2011, supporting digital and open handbooks and promoting open licences for education. One of the initiated projects refers to the promotion of open education itself.

In 2013, the software company SIVECO created four digital handbooks for history, physics, geography and an ABC book for children from grades I-XII, based on the national curricula for each of the subjects. The handbooks were to be approved also by the Ministry of Education. The lessons comprised audio, video sequences, animations, simulations, activities in real or virtual laboratories and a portfolio in which all the students' homeworks and tests can be saved.

Starting from an optional course on protecting the environment, introduced in schools in print form in 2008, in 2013 the first digital handbook from Romania was published titled "The Green Lesson. Create your environment." This was an interactive course addressed to the students from grades III-IV, that was realised in interactive form for the iPad or online. Nonetheless, it represented only the scanned version of a printed material.

Presence of OERs in Romania

Until now, in Romania we cannot speak about a very strong environment for the development and exploitation of Open Educational Resources. However, an initiative of the Ministry of Education exists, through the introduction in the Romanian education system

53 Cf. Pérez-Mateo et al. 2011.

of digital textbooks, but without a big success. A detailed classification of projects and resources related to OER was done by Holotescu (2014), in the shape of a detailed map of all resources available in Romania - trainings, practices or open pedagogies, as well as the POERUP Romania report.

Romania is currently active in this movement, especially through trainings and courses, both for the pre-university education and for the university education. Various national events related to open resources exist, created by the professors from pre-university education. At the same time, there are some strong communities around the topics of free software, open access, open data, free licenses - communities that develop OERs and organize events on this topic.

Some of the Romanian OERs are as follows:

1. DidaTec

The project seeks to improve the education and training process in the technical university education system by realising a complete and unitary programme for the initial and continuous training of the academic staff. The programme was focused on integrating interactive teaching and learning techniques and IT&C among the professors' competences. Over 1000 professors took part in this programme.

2. MOOC experiment at the Politehnica University of Timișoara

It was Prof. Carmen Holotescu who has realized at the Politehnica University of Timișoara an experimental course of the Massive Online Open Course (MOOC) type. The purpose of the course was to familiarise the students with this type of interactive learning and to show them the new trends. Students were able to learn which are the most important platforms and offers of the MOOC type, but also about the various possibilities to learn and interact during the courses.

3. Moodle Romania

Moodle is an e-learning platform that offers services and modules for the development of an online learning and assessment environment. Moodle offers a set of components and modules, communication instruments, virtual classroom and digital library that allow the management, documentation, tracking and monitoring of the teaching programmes, of classes, of the activity of trainers or of online events that intervene in a course scenario. Moodle helps with the construction and management of the digital contents of the lectures or of other categories of resources and activities. The platform is a free software, anyone

can download and install it. Moodle Romania http://www.moodle.ro/course offers courses for teacher training in using new technologies, also hosts/supports courses for schools and universities.

According to global statistics, in Romania over 70% of universities use Moodle and only 20% of schools and high schools. The EDU Moodle Romania network has more than 15000 users and more than 400 professors have prepared an online lecture on Moodle yearly. The platform Moodle Romania manages more than 180000 user accounts and more than 250 Moodle instances from the pre-university system, university, business environments, from public institutions and NGOs.

4. iTeach

iTeach aims to create an advanced virtual environment dedicated to the professional development of teaching staff, that integrates Web 2.0 instruments and facilities specific for virtual communities, for informing and training, for facilitating the exchange of experience, for developing long-distance teaching projects, for, socio-professional cooperation, for the natural acquaintance with the new technologies. On the iTeach platform several online courses that target the development of the pedagogical and specialty competences of the enrolled teaching staff are available. The core of the offer is the Teach Advanced Online software, created by Intel. Other available courses are developed by deliverers of training from Romania: the Institute for Education Sciences, the Centre for Innovation in Education (TEHNE Romania), departments for the training of academic staff from universities etc.

Members of iTeach can publish articles in specialty journals, such as Pedagogy Journal, Elearning.Romania, EDICT, as well as in the online journal iTeach. Also, on the platform several available resources proposed by trainers and representatives of the institutions for initial and continuous training exist. An advanced system for communication between professional groups allows access to various flows of local, county-wide or national announcements that contain information specific for the educational environment.

5. MEDEAnet and MediaSIS ActiveWatch

MEDEAnet and MediaSIS ActiveWatch get involved in a wide range of activities, especially in the area of monitoring and advocacy, as well as in social interventions with regard to good governance policies, freedom of expression, anti-discrimination and media education. ActiveWatch has published the first handbook for media education in Romania and organises trainings on this topic for educators, gets involved in studies and workshops with students and professors from the secondary education system and makes available support materials for the professors interested in media promotion. ActiveWatch is one of the partners of the MEDEAnet project, whose aim is to train participants from the primary and

secondary education about various web environments, software applications and methodological instruments. In particular, MEDEAnet workshops focus on promoting good practices using media in the classroom or in long distance learning.

6. Institute for Education Sciences - Centre for Online Learning

The Institute for Education Sciences has initiated a series of online courses on topics that are complementary to those from the education plans, hosted on the Moodle platform. The courses are aimed at students, teaching staff, school principals, experts, school counselors as well as at all those interested in specific educational aspects. Among the creators of course modules, of the methodology and online platform there are professors or researchers from the Institute for Education Sciences, authors of handbooks, evaluators but also other experts from this area.

7. Online academy

The online academy is a site that offers free courses for business, personal development, foreign languages, IT&C, education. Most courses are free, but there exists also the possibility to take part, on the same platform, in several fee-based courses that are approved by higher authorities.

8. Copy-me (http://copy-me.org/about/)

It is a platform that promotes the distribution of knowledge and of culture, but also the name of an animated series on copying. There are presented information about *laws, myths and misconceptions*, about the *Internet* and the wide spread of *information* and last, but not least, about the benefits of sharing.

All the proposed content is under a free license, so that anybody can use and share the information in any way he/she decide, without any sort of restriction.

The Copy-me platform is also the title of some animated **web series**, dedicated to debunking the myths of copying: copyright, internet, creativity.

On the platform there are several 2D animated episodes, each dealing with a different reasoning as to what is fair and what is not in the digital realm – and as to the big difference between copying something and actually stealing it. It is well structured, with simple, yet comprehensive reasons anyone can understand.

It is an exercise in learning what is going on in the world. It is also a **free and open project**,

with a free license to download, stream, redistribute, broadcast or remix.

9. Sloop2desk (http://www.sloop2desc.eu/ro/cursuri-online.html)

This is a platform resulted from a past project "SLOOP: Sharing Learning Objects in an Open Perspective", that had as objectives the creation of novel strategies for e-learning, using OER.

Through this project it was sought to increase the level of knowledge of the VET specialists in educational systems based on the results of learning and of gained competences. Several courses were offered, among them also a course on the development of open education resources using Web 2.0 instruments.

10. e-school (http://www.e-scoala.ro/index.htm)

The European project Online School offers a database with free education resources for students, pupils and professors. The site is conceived to be an open platform, anyone being allowed to contribute to developing and distributing it on the Internet.

The platform comprises virtual lessons, papers, games, counselling on various topics as well as useful addresses of educational institutions, jobs for students etc.

Directions for Romania

In the "2015 Joint Report of the Council and the Commission on the implementation of the Strategic framework for European cooperation in education and training (ET 2020). New priorities for European cooperation in education and training" it is mentioned that the new priority areas are:

- Relevant and high-quality knowledge, skills and competences developed throughout lifelong learning, focusing on learning outcomes for employability, innovation, active citizenship and well-being;
- Inclusive education, equality, equity, non-discrimination and the promotion of civic competences.

And, also, "Open learning environments, such as public libraries, open adult education centres and open universities, should be empowered as a means of promoting social inclusion."

Moreover, the document includes a priority direction: "Open and innovative education

and training, including by fully embracing the digital era", that includes as main measures:

- Boosting availability and quality of open and digital educational resources and pedagogies at all education levels, in cooperation with European open source communities.
- Addressing the development of digital competences at all levels of learning, including non-formal and informal, in response to the digital revolution."

In the educational policy tackled in Romania, as mentioned in the Strategy for education and professional training 2014 - 2020, created by the Romanian Ministry National Education and Scientific Research, "the main challenge for the 2020 horizon will be in the area of diversifying the integration strategies for new technologies in schools, universities, at the workplace, in lifelong learning but also within the community, through innovative and flexible models that would allow the creation of new attractive and motivating contexts for learning."

The same document states that "the orientations regarding the recent initiative *Opening Up Education* promote an example of initiative by which Europe uses the entire potential of digital revolution, in order to increase quality and accessibility in education and training by exploiting all advantages brought by IT&C and the open education resources", and that "it is sought to consolidate the investments for learning and innovation through IT&C in Romanian universities, through which a national integrated informatics system would become functional for the management of the system of reference statistical indicators for higher education and of the corresponding databases." It can be noticed that the strategy project emphasises IT&C and not Education. This leads to the idea that actually there is no reference frame for Open Education as base for the Development strategy up to 2020.

In the "National report on the implementation of the Strategic framework for European cooperation in the area of education and professional training ET 2020" realised by the Institute for Education Sciences of Romania, it is stated that "for the increase of the quality of teaching and for supporting lifelong learning, it was decided to found the Virtual School Library and the School E-learning Platform, that include school programmes, examples of lessons for all topics within the school programmes, methodological guides, examples of assessment tests." Therefore, in April 2016, by means of the Partnership for an open governance**,** there was generated the National action plan July 2016 - June 2018, which includes clearly and with precise deadlines the initiative to create the Virtual School Library and the Open Education Resources. This will allow, it is hoped, a change of paradigm of the manner in which the educational resources are used in the learning process.

According to this document, the sources for these materials will be[54]:

- "materials produced by the Ministry and the subordinate institutions, mainly

54 http://ogp.gov.ro/wp-content/uploads/2016/04/PNA-OGP-2016-2018_draft-28-apr-1.doc

school programmes and handbooks that the Ministry will acquire directly;

- resources produced in programmes with European funding, regardless of who the beneficiary is. The funding contracts will contain clauses through which the produced resources will be published under open licence and will be uploaded onto the governmental portal;
- resources developed by professors and used during school inspection. It is known that professors constantly create a variety of teaching materials, a large part of them being presented or used during school inspection. These materials can be uploaded to the same virtual platform;
- resources already developed by professors and distributed in other communities. Within virtual communities there exist already numerous resources for professors, created by professors. The users of these communities will be encouraged to transfer the most valuable resources also to the public portal, including through partnerships with the administrators of these communities.
- Educational resources resulted as a consequence of implementing projects with European funding will have to be part of this library;
- Starting a process of public consultation regarding the acquisition of handbooks, so that the contents of the handbooks too can be acquired and become the property of the Ministry of Education".

The timeframe for all these activities is rather limited, they having to be finished by December 2016.

Nonetheless, the initiatives for introducing a coherent policy in the OER area are still fragile and there can be noticed a weak adaptation of the Romanian educational policy to the problem of open education. The steps undertaken are small and hesitant.

Surely, this is not the only area still unsolved in the Romanian educational policy. But if we do not keep up with open education and with providing open educational and learning resources, we might be contributing ourselves to a falling behind with unforeseeable costs.

Romania is rather well placed in terms of infrastructure for education and aims to continue the investments in this area. The main problem is that it will need to continue focusing attention on the improvement of the environment and on the resources.

As recommendations for the future, there would be:

- A more pronounced usage of open education resources, in the context in which OER represent a key preoccupation at European level. In this context, the EU-Store project really adds value, through the quality of resources that constitute the database and especially due to the quality standards that will allow each user to find the best offer of resources for the own goals.
- Respecting the recommendations of the European Commission "Connect every

school, ideally including connectivity to individual classrooms, to broadband, upgrade their ICT equipment, and develop accessible, open national digital learning repositories using structural and investment funds by 2020" and in this regard strengthening the IT network in schools;

- Developing the digital competences of students and of professors and driving them to create digital resources and to incorporate IT&C in all activities;
- Also in direct connection with the recommendations of the European Commission, it is important to allocate public funds for researches in the direction of OER and to stimulate the educational actors in order to constantly include in their activity OER;
- It is also important to realise e-Inclusion through the development of digital competences.

As a conclusion, the OER problem is a less tackled, supported and valorised one in the Romanian educational policy. It can be claimed that there exists a preoccupation rather from the civil society than from the part of the lawmakers and of the decision factors, a fact that cannot encourage the usage of OER and of open education.

By means of the EU-StORE project, we try to focus attention, once more, on this area of maximal interest for the educational profile of the future generations and to convince the deciding factors that a more consistent involvement in this area is necessary.

The EU-StORE project comes with a novel approach, certified for the studies and researches carried out with regard to the opportunity and necessity of the existence of quality standards for OER and with regard to the adaptation of these standards to the practice of working with OER.

It is necessary that the EU-StORE project and its results be known on a wide scale by a large number of educational actors and interested factors, since it contributes to the advancement of the domain of open education and of OER.

References

Salpeter, J. (2016): Moving to Digital Content. Presented by Learning.com, ebook, accessed 27.03.2016.

Pérez-Mateo, M. /Maina, M.F. /Guitert, M. / Romero, M. (2011). Learner generated content: quality criteria in online collaborative learning: http://www.eurodl.org/materials /special/ 2011/Perez... apud http://oerup2.teachable.com/courses/oer-uptake-in-adult-education/ lectures/466916, accessed 4.04.2016

http://www.edu.ro/index.php/articles/20205 accessed in 10.04.2016

http://www.fundatia.ro/sites/default/files/RED%20-%20oportunitati%20pentru%20Romania.pdf accessed at 28.05.2016

Comments on the National Strategy for the Digital Agenda for Romania (2016): at http://cursdeguvernare.ro/wp-content/uploads/2015/01/001.pdf accessed in 15.04.2016

REDX Coalition (2016): at http://educatiedeschisa.ro/index.php/coalitia-red/accessed at 15.05.2016

http://www.acces-deschis.ro/depozit/resurse-educa%C8%9Bionale-deschise/28-ghidul-de-bune-practici-red/file accessed at 15.07.2015

10. Use and Implementation of OERs in the UK

(Rajesh Pathak)

There are a number of sources available for open education resources across the UK. The largest perhaps is the Open University (OU) platform which also has branches and training facilities around the world.

The OU as mentioned on its website provides at least 5% of all its materials free as Open Education Resource (OER) and has around 8000 hours of learning materials in 12 subjects. Since its launch of OpenLearn OU has had some 35.5 million visitors across 196 countries. It has some 600 courses available as free resource on its website and also has a course for designing an open learning resource. OER as mentioned on: http://www.unesco.org.uk/open_educational_resources_%28oer%29 was first devised at the UNESCO 2002 conference and since then the UNESCO International Institute for Educational Planning (IIEP) has been at the forefront of OER research and debate. The United Nations has also declared principles for building an Information Society where everyone has "The ability for all to access and contribute information, ideas and knowledge is essential in an inclusive Information Society" (section B3/24 - http://www.itu.int/wsis/docs/geneva/official/dop.html) These principles are necessary for the Millennium Goals and Declaration by the UN to "eradicate extreme poverty while promoting gender equality".

The UK plays an important role in the OER debate because:

- the UK has some of the largest OER projects in the world, including Open University's 'Open Learn'
- the UK also has an extensive commercial educational publishing sector
- along with the US and Canada, the UK is a large exporter of e-learning services (http://www.unesco.org.uk/open_educational_resources_%28oer%29)

When using and embedding OERS within the curriculum, there are a number of issues that need to be considered. Learning.com (http://www.learning.com/blogs/guide-using-oer-classroom) suggests standards that need to be focused upon and especially if there are any norms with a particular country, city, borough or the guidelines stipulated by the local education authorities. Once these standards and norms have been followed in the curriculum design, it is then possible to focus on licencing of the OERs and how open these resources ought to or can be for the education community. The content related copyright of the OERs can be followed according to the Creative Commons but as pointed out on Learning. Com not all CC licenses grant users the same ability to remix and reuse content.

In UK there are a number of education providers, universities included, which help teachers and trainers develop their own OERs and the pitfalls or benefits of OERs be-

ing also highlighted. Among such universities include, UCL (University College London), Open University, Cambridge University and LSE (London School of Economics) to name just a few. While developing OERs for use within the curriculum, Cambridge University (CU) encourages dialogue and cooperation between colleagues as an example of good practise and also further professional development among the educators themselves. Creating and using OERs support the professional development of staff, suggests CU (http://oer.educ.cam.ac.uk/wiki/Creating_and_Using_OERs_to_Promote_Best_Practice) and further goes on to quote the centralised example of Wales High School (https://whsteachingandlearning.wordpress.com/) where staff share their experiences of using a range of teaching and learning approaches and resources, including those relating to digital literacy. The centrally managed blog at Wales High School (WHS) allowed staff to post a resource or an idea encouraging other colleagues to review and comment on these resources and ideas. Many teachers at WHS started sharing ideas and resources and even discussed assessment of learning materials.

Other than the global organisations such as the UN and UNESCO, the UK also has prominent universities that have joined the lead in creating and promoting OERs. Many of these universities are at the forefront in delivering and promoting OERs either on their own merit or through a public organisation known as JISC. The Joint Information Systems Committee (JISC)[55] was started in 1993 in the UK under the guidance of the Secretary of State and Higher Education Funding Councils in England, Scotland and Wales. Originally, focused on Higher education remit, JISC has moved on to include Further Education involving the 16-19 age range as compared to the 18-21 age range of universities. Constantly pushing the boundaries, JISC encourages the use of and adoption of digital technology in teaching, learning and research within the UK. Over the past 28-odd years JISC has achieved a number of milestones among which include 18 million users, £75.5 million cost savings and a Knowledge Base+ service that includes all UK academic library data (JISC website).[56] 80% of JISC funding comes from the Higher Education Funding Council for England, Department for Business, Innovation & Skills and other Higher Education Funding Councils in Scotland and Wales i.e. it is funded by the taxpayers.

All prominent universities vie for a pole position as far as OER development is concerned and offer a variety of subjects for learning and development. Most of these are aimed at higher education (HE) participants but the so-called degrees and HE courses are also made accessible via the university OER websites for people with limited budgets and no formal training in education especially at higher levels. The aim is to make these courses accessible to share knowledge and therefore make society more inclusive and tolerant through learning and development. Among the better known universities in UK which offer OERs include University College of London (UCL)[57], London School of Economics (LSE), University of Leicester, University of Sheffield and University of Cambridge to name a few

55 Cf. JISC 2015.
56 Cf. JISC 2015.
57 Cf. UCL 2015.

apart from The Open University or simply OU.

UCL for example offers 8000 hours of learning materials under its OER banner http://www.ucl.ac.uk/teaching-learning/technology/oer and has links to other providers that offer some interesting learning and development opportunities. The HumBox from University of Southampton focuses on humanities subjects while Xpert from the University of Nottingham contains some 120,000 learning objects from 8000 providers. As noted on UCL OER forum the learning materials as OERs can be anything from degree courses, webinars, lecture notes, essay questions to simply reading lists.

The Open Education Movement / Philosophy / Concept is the 20th Century phenomena as a result of the technological advances and the need to become more competitive among nations while building knowledgeable societies. As mentioned on the JISC webpages https://openeducationalresources.pbworks.com/w/page/24836860/What%20are%20Open %20Educational%20Resources , there have been several drivers and motivations that have contributed to this openness and the need promote efficiencies via sharing, preventing duplication, avoiding restrictive (Copyright) practises and improving access to wide range of people who otherwise would not be able to embrace diversity and enhance knowledge. OERs empower people and have been created by communities that recognise benefits to themselves and the wider stakeholders. Some of the drivers of this Open Movement are:

- Open source (relating to business and technology)
- Open source software
- Open source hardware
- Open standards
- Open access (research)
- Open design
- Open knowledge
- Open data
- Open content
- Open courseware
- Open educational resources
- Open educational practice

In addition to popular universities offering OERs there are a number of other organisations that also offer courses for learners at all levels. Among these include the BBC Bite Size website http://www.bbc.co.uk/education that has been acclaimed across the world for various levels of courses being offered to learners and also ideas for teachers to deliver these courses for stages Key 1 (age 6-7) to Key 4 (age 16). Lately this also includes courses related to the Scottish National Certificate and also variations offered in Wales and Northern Ireland. Since the English GCSEs (General Certificate of Secondary Education) are popular among many countries including the former British colonies now known as The Commonwealth, BBC educations is accessed in many countries.

Along with the BBC, there are also other non-governmental and private organisations that cater to the National Curriculum (NC) subjects up to GCSE levels and offer free learning resources. Some of these might then be specific and aimed at certain subject areas such as Citizenship. Many charities such as the Red Cross, Oxfam, Amnesty International and Water Aid all offer free resources that teachers could use in their delivery of the NC across UK and also The Commonwealth where GCSEs are taken and delivered. Primarily while the subject matter of these organisations' resources is related to Citizenship these materials also open minds, change lives by challenging their visions of the world. For example, Water Aid promoted the issues related to scarcity of water, that priceless commodity engaging learners across UK to think differently and not waste water. While these OERs may be used in subjects such as Sciences and Citizenship, they also lend a useful tool for Economics and Business where learners always explore uses and implementations of scarce commodities. Another charity, War Child promotes the effects of war and how lives of people change, especially children and women. Started in 1993 after the effects of the war in Yugoslavia, War Child provides teachers in UK with resources specifically developed for K3 (key stage 3) level which are highly interactive and accessible as mentioned on its website and also offer lesson plans to teachers http://www.warchild.org.uk/about/our-approach

Language learning is increasingly becoming important in a more competitive world and also where due to technology travel and cultural activities have increased. Learning English can these days be done via video-conferencing and other online tools. There are many organisations that offer free resources to the learners and trainers of English not just for use in the UK but accessible by learners and teachers alike across the world. One such organisation offering free resources for English language is the Cambridge English Teacher Development which offers teachers various resources and allows them to continue their professional development via its website http://www.cambridgeenglish.org/teaching-english/teaching-challenges/?gclid=cnkqkdrc_sqcfalmtaoddlmasq Another prominent organisation offering free resources for learning and teaching English is the British Council.

In terms of Quality criteria related to OERs there have been a number of studies and as Camilleri, Ehlers and Pawlowski (2014) point out when reviewing a set of definitions of OER and in particular quality issues they all:

- cover both use and reuse, repurposing, and modification of resources,
- include free use of these resources for educational purposes by teachers and learners,
- encompass all types of digital media.

Further, as Camilleri, Ehlers and Pawlowski[58] mention due to the widespread use and access to OERs that the distinguishing feature of OER when compared to other resources is the freedom with which it may be used, reused and repurposed thanks to its open licence. Camilleri, Ehlers and Pawlowski (2014) continue that in addition to this freedom,

58 Cf. Camilleri, Ehlers and Pawlowski 2014.

however, the traditional lifecycle of a resource, particularly with respect to the processes of creation, editing, evaluation and use, is significantly disrupted. Due to this disruption in the steps needed for the creation of a resource and, the freedom granted by OER leads to a blurring of these boundaries making it difficult to pinpoint a definition and in particular Quality aspects of the OER. Camilleri, Ehlers and Pawlowski conclude that the involvement of many more actors in each step therefore means a federation of responsibility for each step, and as such need to include a wide spectrum of stakeholders who are involved in an OER lifecycle, especially for the Quality aspects of the OERs.

Open University as part of the Excellence project[59] focusing on Quality Assurance in OER mention that a wide range of digital tools are being used to create OERs and embed learning in the process. As Williams K. et. al. (2011) pointed out among these may include: forums (to support discussion and debate), WiKis (to support co-creation of resources), blogs (to support reflection, sharing and feedback) or even social networks (to support sense of community). Williams K. et. al. continue that pedagogic design should address the use of both asynchronous (blogs, wikis, forums to capture the story line) and synchronous (chat, instant messaging, web conferencing to emphasise chat between real people rather than machines) communication tools. The relative emphasis on the use of these tools suggest Williams K. et. al. will vary between institutions and course/module content and hence, Quality Assurance criteria should not be prescriptive on either particular technology or proportional use.

When conducting the presentations of OER and EU-StORe it was not necessary to go through the definitions of OER, its usefulness and the characteristics of OERs as the participants of the various presentations in UK are all experts in using and developing OERs. Many have been in the industry for several years and, some as long as 15+ years.

The EU-StORe UK presentation and concept was carried out at LSI Central, London, UK with Mark Lane who has a team of 8 teachers of English as a Foreign Language (EFL) on 17 May 2016. Each teacher is responsible for a class of 15 students of general English to more specialised classes such as Business English, English for Medical students and so forth. The teachers, it transpired, all use OERs and extensively make use of the BBC Knowledge base for English teachers (http://www.bbc.co.uk/worldservice/learningenglish/teach/) and also the Onestopenglish website (http://www.onestopenglish.com/) for EFL teachers. Both these OER websites provide ample materials for teachers at LSI and their daily planning of lessons and delivery among their students who come to London from a diverse community and many are from Italy, Brazil, Japan, France, Spain and Turkey while more specialised classes (such as Business English or ESP; English for Specific Purpose) are mostly attended by participants from Germany, Czech Republic and South Korea. The participants at LSI were also shown the EUSTORE repository and the database. They found additional ideas and resources useful, in particular the British Council website for learning resources and blogging facility (https://www.teachingenglish.org.uk/teaching-teens/resources).

59 Cf. Williams et. al. 2011.

At another event, OER17 UK that took place on 20 May 2016 in Leicester, UK at Learning and Work Institute, EU-StORe was again presented among the 22 participants who are experts in Open education and maintain the Open Education Forum for Wikimedia and Wikipedia UK. When the final version of the EUSTORE is available more will be shared with experts such as those from OER17 UK who are keen on Open Education via Wikipedia but may see opportunities of working with EU-StORe as the JORUM repository in UK which has announced a retirement date of September 2016 is going through some uncertainties and may be ceasing or coming to an end or at least be changing the format due to lack of funding (http://www.jorum.ac.uk/news/jorum-retiring/).

The Learning Resources and Scenarios discussed consisted of ideas and content for teaching Business English classes and / or Business Management classes to learners aged between 16 to 20 and those willing to pursue vocational sector opportunities such as office environment, travel and tourism, sales and marketing or indeed any other such commercial field.

Additionally all teachers / trainers we spoke to agreed that in order for OERs and learning to be effective they ought to focus on and contain following competences:

- oral and written communication;
- critical thinking;
- team work,
- independent problem-solving
- commercial awareness and responsibilities

to mention only a few of them.

Within the discussions we also shared some articles and possible ways to find and generate OERs. Among these included links to Open University and UCL (University College London) websites and guidelines. One such important article was from Todd Finley's blog and ideas about using OERs to plan transformational lessons in the 21st Century! http://www.edutopia.org/blog/9-ways-plan-transformational-lessons-todd-finley

During the EU-StORe presentations it was noticed that there is another very prominent promoter and implementer of OERs in the UK, namely Wikimedia and Wikipedia. In UK Wikimedia is part of the global Wikimedia movement which encourages people and organisations to preserve Open Knowledge and to provide easy access to all to such knowledge (https://wikimedia.org.uk/). There is a growing movement within UK and globally where Wikipedia is used a reference source promoting education and learning. In the UK chapter there are a number of experts from universities, IT, ex-teachers, trainers and prominent people from industry and commerce who guide and train users to edit and update Wikipedia making the Wikipedia entries more up-to-date and user friendly both for the teachers and learners. The OER Wikipedia is accessed by millions all over the world and increasingly becoming an important tool in teaching and learning across many facets of education in

UK and across the world. For example, research for and to implement Wikipedia OER as a learning tool, University College London has integrated this in it's Connected Curriculum (http://www.ucl.ac.uk/teaching-learning/connected-curriculum) which engages students as partners in education giving them reasons to produce work directed at an audience critically exploring Open Knowledge and values and practices of OERs within a global context.

Another area where OER Wikipedia is being used is in the area of VLE (Virtual Learning Environment) promoting the culture of Open Education and making VLE more conversational (https://wikimedia.org.uk/wiki/Virtual_Learning_Environment). There are also many ongoing projects within UK where promotion of Open Knowledge and OERs is actively pursued by Wikimedia. The Wikipedian in Residence at The National Library in Wales being one of them which advocates and promotes Open Access to digital collections and literacy by engaging cultural partners and holding a series of edit-a-thons. With the overall aim of providing 'Information for All' the project aims to increase footfall and draw back the community back to libraries and the process of creating a friendly environment for its readership. (https://wikimedia.org.uk/wiki/Expert_outreach/Wikipedian_in_Residence_at_the_National_Library_of_Wales).

At the Middlesex University, the concept of using and implementing OERs is firmly embedded in their course MED3040 Publishing Cultures which integrates use of Wikipedia in its research and delivery activity (http://readinglists.mdx.ac.uk/lists/C9B994A1-09ED-3BA6-9E73-718ECC6EB80A.html)

Finally, the OERs from UK are also offered by both the British Library and all local and regional libraries too. Apart from the formal learning resources such as textbooks OERs from the libraries also include resources that people can use for hobbies and personal development. As the partner number 4, European Learning Network Ltd, is constantly mentioning and updating our social media, face book pages, relating to OERs. More can be found at:
https://www.facebook.com/pages/EuStoreUK/357201941134798?fref=nf

References

OPEN AC (2015): http://www.open.ac.uk/about/open-educational-resources/. Accessed: 28.01.2015.

JISC (2015): http://www.jisc.ac.uk/about/facts-and-figures/. Accessed: 14-02-2015

UCL (2015): http://www.ucl.ac.uk/teaching-learning/technology/oer. Accessed 14.04.2015.

Camilleri, A.F / Ehlers, U.D. /Pawlowski, J. (2014): State of the art Review of Quality Issues related to Open Educational Resource. Joint Research Centre, European Commission, ISSN 1831-9424

Williams, K. / Kear, K. / Rosewell, J. / Ferreira, G. (2011): Incorporating quality assurance criteria for OER and Social Networking in the E-xcellence QA methodology. In: 24th ICDE World Conference "Expanding Horizons – New Approaches to Open and Distance Learning", 2-5 October 2011, Bali, Indonesia.

Part III

Evaluation, Project Results and Recommendations

11. Evaluation Results concerning OER and the EU-StORe project

(Marc Beutner / Jennifer Schneider)

Evaluation is an important aspect in EU-StORe. It focuses on different aspects which will be shown in the following text. Nevertheless, it is important to have a common idea about evaluation. Such a common idea is a basis for a fruitful discussion how to develop education based on data derived from evaluation activities. This means that it is helpful to refer to a specific definition of Evaluation.

Michael Scriven defines evaluation as follows:

"Evaluation refers to the process of determinating the merit, worth, or value of something, or the product of the process… . The evaluation process normally involves some identification of relevant standards of merit, worth, or value; some investigation of the performance of the evaluands on these standards; and some integration or synthesis of the results to achieve an overall evaluation or set of associated evaluations."[1]

The design of the evaluation of EU-StORe combines questionnaires with a responsive design as suggested by Stake:

"Responsive evaluation is an approach, an orientation, a predisposition, as part of any formal evaluation of education and social service programs. It leans heavily on personal experience. It draws upon and refines the ordinary ways people perceive quality and worth. More than most formal evaluations methods, it draws attention to program activity, to program uniqueness, and to cultural pluralities."[2]

The basic ideas of the EU-StORe evaluation are based on the Three Shell Model of Systematic Analytical VET and Educational Evaluation of Beutner which can be used for vocational education and general education.[3]

1 Cf. Scriven 1991, S. 139.
2 Cf. Stake 2004, S. 209.
3 Cf. Beutner 2016, chapter 5

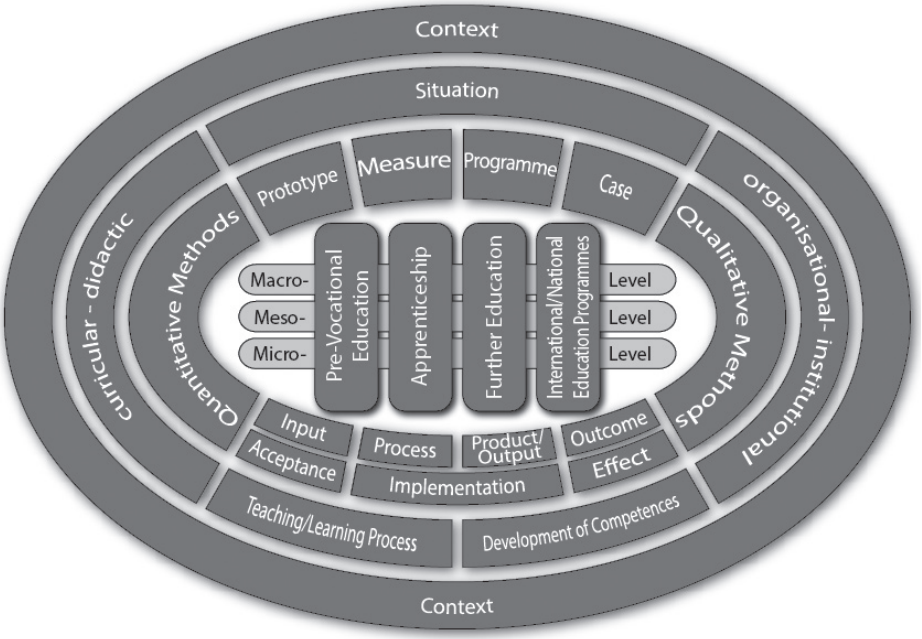


Figure 11: The Three Shell Model of Systematic Analytical VET and Educational Evaluation of Beutner[4]

It focusses on the core processes of teaching and learning in different educational fields (in the middle of the figure). In the shells it focusses on the contexts, methods and contents.

The inner shell focusses on the methods, with acceptance evaluation, implementation evaluation and outcome and effect evaluation.

The second shell looks at specific elements: (a) situational elements, (b) curricular-didactical elements, (c) organisational-intitutional elements, (d) teaching and learning processes, and (e) the development of skills and competences. The third shell, named "Context", focusses on the environment and the contexts in which an educational innovation and evaluation takes place.

11.1. Introduction into the evaluation aspects of EU-StORe

The evaluation of EU-StORe had a project related and a content related part. It combines formative and summative evaluation and offers data about OER and the project as well as hints how the field of OER evolves in the future.

4 Beutner 2016, chapter 5

The project related part focused on the development ot the project and the project meetings. It was designed to ensure that the European project focused on the correct topics and the project management was able to fit the need and requirements of the project partners and the EU. The much bigger und most important part is the content related part. This part focused on the results of EU-StORe, on information about OERs in the different partner countries, the EU-StORe database and platform, the quality criteria and the acceptance of EU-StORe at users (e.g. teachers, trainers and learners).

Due to the fact that this book is looking at the results we show some insights in the content related evaluation part.

We will have a look at the results of three surveys:

- the general EU-StORe OER Survey (N=324),
- the EU-StORe Usability Survey (N=245),
- the EU-StORe Acceptance Survey (N=245).

11.2 Insights into the EU-StORe evaluations

11.2.1 Insights into the results of the general EU-StORe OER survey

The EU-StORe OER survey was conducted in 2015/2016 in all partner countries of EU-StORe: Romania, Germany, the United Kingdom, Ireland, Italy and Malta. Most participants came from Romania (26.2%), Germany (24.4%) and Italy (23.8%). In total 324 participants answered the questions of the general EU-StORe OER survey.

Country

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Romania	85	26.2	26.2	26.2
	Germany	79	24.4	24.4	50.6
	UK	36	11.1	11.1	61.7
	Ireland	17	5.2	5.2	67.0
	Italy	77	23.8	23.8	90.7
	Malta	30	9.3	9.3	100.0
	Total	324	100.0	100.0	

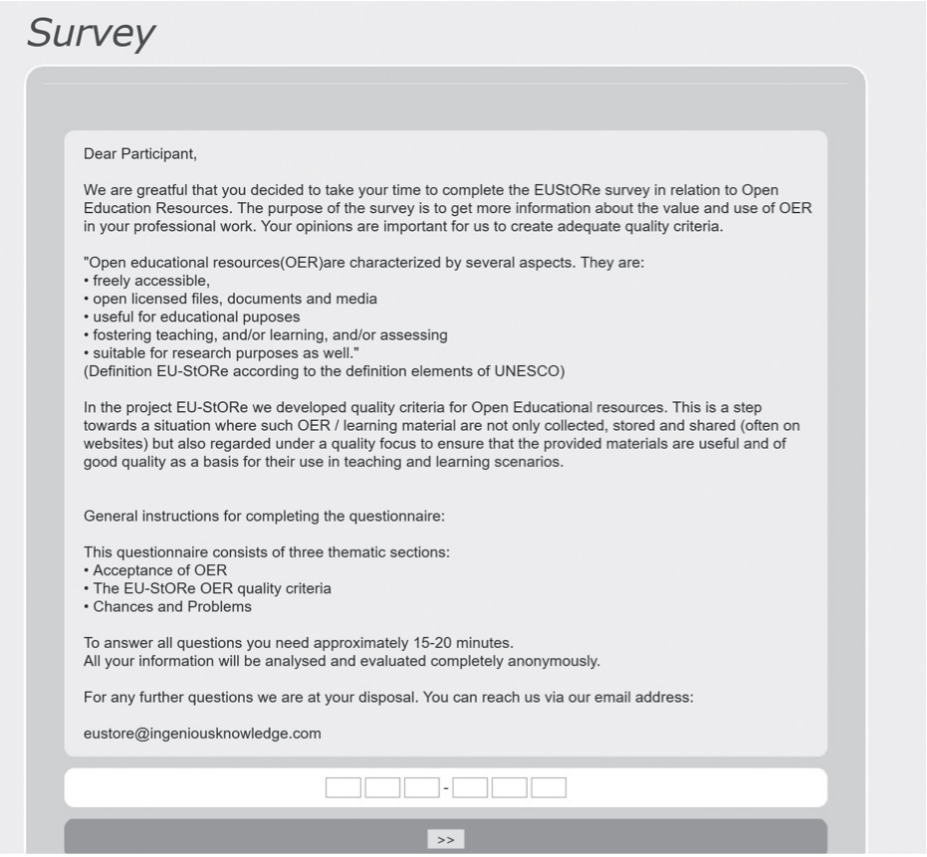
Table 16: Involved Countries and participants of the general EU-StORe OER Survey

About two third, to be correct 68.5% of the respondents, were female and about one third – 30.2% - were male (1.3% gave no answer concerning gender). The average age of the participants was 36.59 years (with a standard deviation of 11.127 years). The youngest participant was 17 years and the oldest 70 years old.

The questionnaire was provided in an online version and included three thematic sections:

- Acceptance of OER
- The EU-StORe OER quality criteria
- Chances and problems

The survey came with a short introduction, which also provided a common definition of OER, to gain a common understanding at the participants.



Survey

Dear Participant,

We are greatful that you decided to take your time to complete the EUStORe survey in relation to Open Education Resources. The purpose of the survey is to get more information about the value and use of OER in your professional work. Your opinions are important for us to create adequate quality criteria.

"Open educational resources(OER)are characterized by several aspects. They are:
• freely accessible,
• open licensed files, documents and media
• useful for educational puposes
• fostering teaching, and/or learning, and/or assessing
• suitable for research purposes as well."
(Definition EU-StORe according to the definition elements of UNESCO)

In the project EU-StORe we developed quality criteria for Open Educational resources. This is a step towards a situation where such OER / learning material are not only collected, stored and shared (often on websites) but also regarded under a quality focus to ensure that the provided materials are useful and of good quality as a basis for their use in teaching and learning scenarios.

General instructions for completing the questionnaire:

This questionnaire consists of three thematic sections:
• Acceptance of OER
• The EU-StORe OER quality criteria
• Chances and Problems

To answer all questions you need approximately 15-20 minutes.
All your information will be analysed and evaluated completely anonymously.

For any further questions we are at your disposal. You can reach us via our email address:

eustore@ingeniousknowledge.com

>>

Figure 12: Introduction to the online EU-StORe OER Survey

The target group of the survey were teachers, trainers, educational experts and learners. At the end about one third of the participants were learners (34.1%), 48.3% were teachers and 5.6% trainers. The whole overview about the status of the different participants is presented in the next table:

Status – I am a … learner

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Learner	103	31.8	34.1	34.1
	Teacher	146	45.1	48.3	82.5
	Trainer	17	5.2	5.6	88.1
	educational counseller	2	0.6	0.7	88.7
	other type of education-al expert	30	9.3	9,9	98.7
	99	4	1.2	1.3	100.0
	Total	302	93.2	100.0	
Missing	9	22	6.8		
Total		324	100.0		

Table 17: Status of the participants of the EU-StORe OER Survey

When we asked the participants about core characteristics of OERs a clear majority rated these characteristics very highly. 78.0% of the respondents stated that the OER core characteristic ´free of charge´ is important or very important.

76.5% said that is important or very important that there is no copyright or license required to use the resource.

Even more participants – 79.2% – said it is important or very important that OERs are easily adaptable to use for teaching or assessment of teaching.

OERs should foster teaching, and/or learning, and/or assessing is selected by 75.1% (important or very important) of the participants.

77.9% of the participants think that it is important or very important that OERs are suitable as a reference for research purposes or assessing.

Moreover, most of the participants would use OER produced in their own institution:

Would you use Open Educational Resources produced by other professionals and/or institutions?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	210	64.8	65.0	65.0
	maybe	74	22.8	22.9	87.9
	no	21	6.5	6.5	94.4
	99	18	5.6	5.6	100.0
	Total	323	99.7	100.0	
Missing	9	1	.3		
Total		324	100.0		

Table 18: Use of OERs which belong to the institution

OERs are used but not that often as they could be. However, already 45.5% of the respondents use OERs for their personal learning purposes outside their institution.

Please rate how often you have used OERs in the past, in each of the following settings: For my own personal learning outside of my organisation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very often	39	12.0	14.1	14.1
	Often	87	26.9	31.4	45.5
	several times	108	33.3	39.0	84.5
	Not often at all	43	13.3	15.5	100.0
	Total	277	85.5	100.0	
Missing	9	47	14.5		
Total		324	100.0		

Table 19: Use of OERs outside the institution

An interesting aspect was the answer to the question about the quality of the majority of OERs in the partner countries. Here, 59.7% of the participants answered that the OERs in their country are of *not that good quality* or of *low quality*. Less than half of the respondents – 40.3% – think that the OERs are of *good* or *high quality* in their countries. This underpins how urgently common quality criteria for OERs are needed.

Please estimate the quality of OERs in your country: The majority of OERs are...					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	high quality	31	9.6	11.4	11.4
	good quality	79	24.4	28.9	40.3
	not that good quality	127	39.2	46.5	86.8
	low quality	36	11.1	13.2	100.0
	Total	273	84.3	100.0	
Missing	9	51	15.7		
Total		324	100.0		

Table 20: Quality of OERs in the partner countries

For MOOCs (Massive open online courses) the quality is rated a bit better. Here, 58.8% of the participants state *good* or *high quality*. 51.5% of the participants pointed out the normal OER courses are of *good* or *high quality.*

For teaching materials, however, 45.2% are rated to be of *good* or *high quality. 50.4%* of the rating persons think that provided OER learning materials are of *good* or *high quality.*

In addition, the OER platforms are rated to be not as good as they could be. Only 51.7% of the respondents said the majority of OER platforms are *good* or of *high quality.*

Looking at all these quality related results there seems to be a lack of quality in the field of OERs and even platforms which are created to promote OERs are not seen as high quality offers for the target groups.

Therefore, it is encouraging to get such a good feedback on the different quality criteria designed in EU-StORe as will be shown in the next figure. The participants were asked to rate the usefulness of the EU-StORE quality criteria. The EU-StORe quality criteria are dived into descriptive criteria that provides the user with important information about the OER in question and in core rating criteria that focuse on the decision about the quality of the OER. In the survey, both parts were rated and both had excellent results. All descriptive criteria and the core rating criteria were broadly accepted and the majority of the participants stated that they are useful to ensure the quality of an OER.

Concerning the descriptive criteria there are six criteria that are seen as useful by more than 90% of the respondents. All of the descriptive criteria are rated as useful by more than 70% of the participants of the survey. The criterion with the highest frequency of usefulness ratings is the type of OER with 91.6% of the persons who answered the questionnaire.

Descriptive Criteria of EU-StORe	very useful / useful	less useful/ not useful at all
Name of OER	83.9%	16.1%
Language of OER	90.5%	9.5%
Topic of the OER	90.2%	9.8%
Aims (competences addressed) of (by) the OER	90.1%	9.9%
Prerequisites / prior knowledge	83.3%	16.7%
Content description	88.7%	11.3%
Keyword	86.6%	13.4%
Source / URL	87.9%	12.1%
Date of access	71.9%	28.1%
License	70.5%	29.5%
Rationale about the OER Design	81.9%	18.1%
Focus / target audience of the OER (e.g. teacher material, learner material, enterprise material, …)	90.0%	10.0%
Type of OER (e.g. course material, audio material, MOOC, test, …)	91.6%	8.4%
Mode of assessment used by OER	80.8%	19.2%
Certification	90.0%	10.0%
Institution / Creator / Provider of the OER	84.3%	15.7%
Developer of the OER	73.6%	26.4%

Table 21: Rating of the descriptive quality criteria of EU-StORe

The core rating criteria received even better results than the excellent ones of the descriptive criteria.

Concerning the core rating criteria there are four criteria which are said to be useful by more than 95% of the participants. The rating criterion with the lowest score was community and communication opportunities with 77.1%.

Core Rating Criteria of EU-StORe	very useful / useful	less useful/ not useful at all
rights and duties (concerning the OER)	83.5%	16.5%
technical support (concerning ther OER)	89.5%	10.5%
Aims and focus of the OER	96.5%	3.5%
structural information (concerning ther OER)	87.3%	12.7%
Materials of the OER	95.5%	4.5%
Usability of the OER	96.6%	3.4%
Content of the OER	95.8%	4.2%
Media used in the OER	91.3%	8.7%
Target groups of the OER	92.7%	7.3%
Sustainability and sponsoring of the OER	95.2%	4.8%
Community and communication opportunities (concerning the OER)	77.1%	22.9%

Table 22: Rating of the core rating quality criteria of EU-StORe

Overall, a very high majority of respondents perceived the EU-StORe criteria as useful. This shows that the use of the EU-StORe quality criteria fits to the needs of the different target groups of OERs – e.g. teachers, trainers, learners and educational experts.

11.2.2 Insights into the results of the EU-StORe Usability Survey

The Usability Survey of EU-StORe was conducted in 2016. In this survey, all partner countries of EU-StORe (Romania, Germany, the United Kingdom, Ireland, Italy and Malta) were in-

volved. Most participants came from Romania (31.4%), Germany (22.0%) and Italy (17.1%). Over all these countries, 245 participants responded to the EU-StORe Usabiliy Survey.

Country

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Romania	77	31.4	31.4	31.4
	Italy	42	17.1	17.1	48.6
	United Kingdom	23	9.4	9.4	58.0
	Malta	14	5.7	5.7	63.7
	Ireland	35	14.3	14.3	78.0
	Germany	54	22.0	22.0	100.0
	Total	245	100.0	100.0	

Table 23: Involved Countries and participants in the Usability Survey of EU-StORe

The online Usability Survey also included an introduction to OER, with a definition of OER to foster a common understanding.

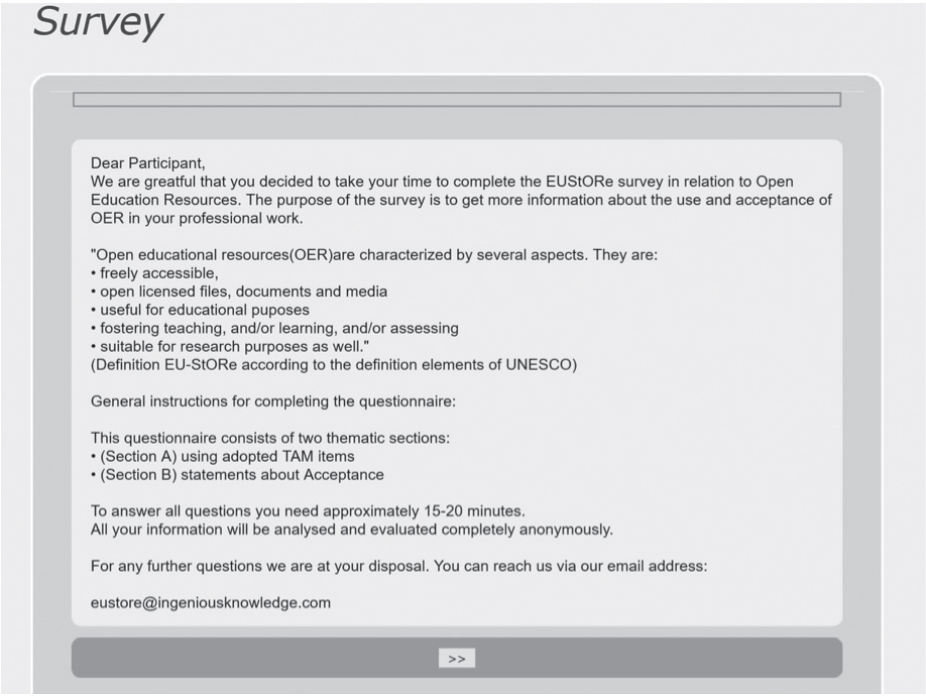


Figure 13: Introduction to the online EU-StORe Usability Survey

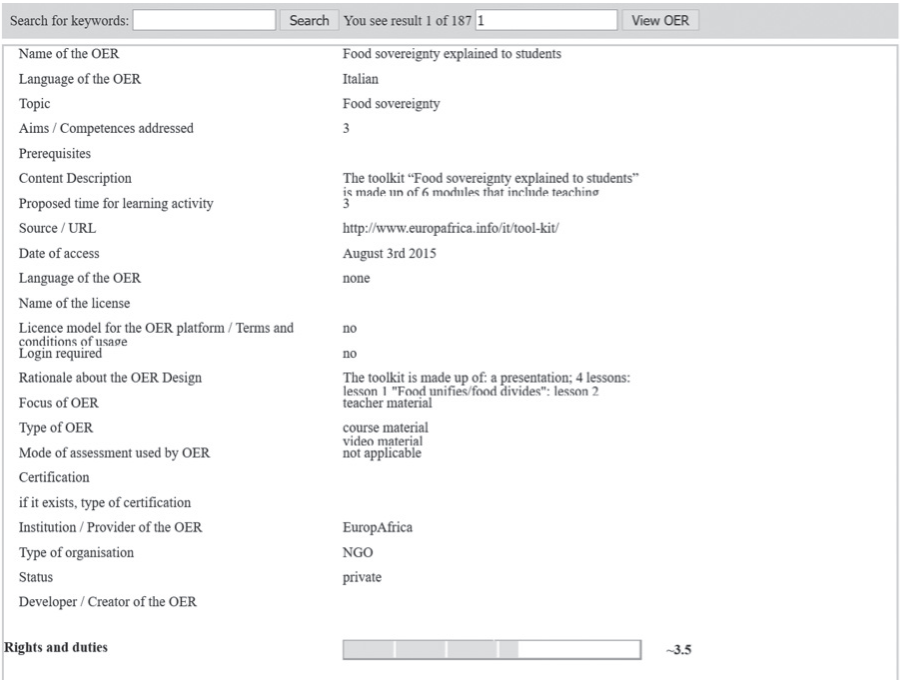
The questionnaire contained 24 technology acceptance model (TAM) items in a modified form. TAM is an information systems theory focusing on usability. This model describes how users come to accept and use a technology approaches. The modified items were designed by the EU-StORe team and based on the revised TAM version of Davis et al. from 1989[5]. TAM takes four different aspects into account:

- PEOU - Perceived Ease of Use
- ATTITUDE - Attitude towards Using
- PU - Perceived Usefulness
- ITU - Intention to Use

Always six items represented each of these four aspects.

The target group consisted of users of OERs and the EU-StORe platform with the quality criteria and the rating tool. Such users are teachers, trainers and learners.

The TAM-Usability test was done with the first designed platform for the quality rating of OERs and was designed to be a basis for the improvement of the usability of the tool.



Search for keywords: Search You see result 1 of 187 1 View OER

Name of the OER	Food sovereignty explained to students
Language of the OER	Italian
Topic	Food sovereignty
Aims / Competences addressed	3
Prerequisites	
Content Description	The toolkit "Food sovereignty explained to students" is made up of 6 modules that include teaching
Proposed time for learning activity	3
Source / URL	http://www.europafrica.info/it/tool-kit/
Date of access	August 3rd 2015
Language of the OER	none
Name of the license	
Licence model for the OER platform / Terms and conditions of usage	no
Login required	no
Rationale about the OER Design	The toolkit is made up of: a presentation; 4 lessons: lesson 1 "Food unifies/food divides": lesson 2
Focus of OER	teacher material
Type of OER	course material video material
Mode of assessment used by OER	not applicable
Certification	
if it exists, type of certification	
Institution / Provider of the OER	EuropAfrica
Type of organisation	NGO
Status	private
Developer / Creator of the OER	
Rights and duties	~3.5

Figure 14: The first design of the platform of EU-StORe which was rated

5 Davis / Bagozzi / Warshaw 1989. p. 982–1003.

The participants rated each item concerning how they agree to it. The items included positive and negative statements. The rating scale started with *strongly agree* and went up to *strongly disagree.*

The rating scale consists of six rating elements:

1. strongly disagree
2. disagree
3. partly disagree
4. partly agree
5. agree
6. strongly agree

The following table show an example of the frequencies of an item rating:

Interaction with the EU-StORe database does not require a lot of my mental effort.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	5	2.0	2.1	2.1
	Disagree	9	3.7	3.9	6.0
	partly disagree	13	5.3	5.6	11.6
	partly agree	35	14.3	15.0	26.6
	Agree	75	30.6	32.2	58.8
	strongly agree	96	39.2	41.2	100.0
	Total	233	95.1	100.0	
Missing	9	12	4.9		
Total		245	100.0		

Table 24: Introduction to the online EU-StORe Usability Survey

All six items of one aspect were combined to one rating of the aspect. Therefore, we calculated the mean of these six items, which provides a rating of the aspect.

The mean provides the number of the adequate rating element for the aspect.

TAM – Aspect of Usability	Mean of the six relevant items	Std. Deviation of the six relevant items
PEOU - Perceived Ease of Use	4.00	0.614
ATTITUDE - Attitude towards Using	4.17	0.402
PU - Perceived Usefulness	4.04	0.483
ITU - Intention to Use	4.10	0.386

Table 25: TAM results of the EU-StORe Usability Survey

Due to the fact that the mean is always near 4 and that the standard deviation is not very high the adequate rating element is the same for all aspects (PEOU, ATTITUDE, PU and ITU): *Partly Agree.*

Therefore, the usability of the first platform design was acceptable but could be improved. Taking this result seriously the EU-StORe consortium redesigned the platform and now offers an easier way to handle the database and the EU-StORe platform. This new platform looks like this now:

Figure 15: New design of the platform of EU-StORe after the redesign based on the Usability Study

11.2.3 Insights into the results of the EU-StORe Acceptance Survey

The same group of participants (N=245), who answered the Usability Survey also answered the Acceptance Survey of EU-StORe. It was important to see if acceptance of OER already exists in the partner countries.

Country					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Romania	77	31.4	31.4	31.4
	Italy	42	17.1	17.1	48.6
	United Kingdom	23	9.4	9.4	58.0
	Malta	14	5.7	5.7	63.7
	Ireland	35	14.3	14.3	78.0
	Germany	54	22.0	22.0	100.0
	Total	245	100.0	100.0	

Table 26: Involved countries and participants in the Acceptance Survey of EU-StORe

The respondents have a positive view on the tool and accept it. 81.9% will *always* or *often* promote the use of the OER database in their institution.

I will promote the use of OERs database in my institution					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	never	1	0.4	0.5	0.5
	seldom	6	2.4	2.8	3.3
	sometimes	32	13.1	14.9	18.1
	often	69	28.2	32.1	50.2
	always	107	43.7	49.8	100.0
	Total	215	87.8	100.0	
Missing	9	30	12.2		
Total		245	100.0		

Table 27: Promotion of the use of OER in the institution

Moreover, 83.3% of the participants agree or at least partly agree that educational admin-

istrators will think positively about the use of the database and OERs in the curriculum.

I presume educational administrators will think positively about the use of the database and OERs in the curriculum.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	disagree	2	0.8	0.9	0.9
	partly disagree	37	15.1	15.9	16.7
	partly argee	75	30.6	32.2	48.9
	agree	119	48.6	51.1	100.0
	Total	233	95.1	100.0	
Missing	9	12	4.9		
Total		245	100.0		

Table 28: Positive thinking about the use of the database and OER

In addition to that, the respondents provided information, what they will search for on the EU-StORe database in the future.

The means of all these possible OERs show that they will all these types will be *often* searched for (Mean of about 4 - often).

I will search in the database to find OERs about:	never	seldom	sometimes	often	always	Mean
Presentations in curricular topics	0.5%	2.8%	12.2%	35.2%	49.3%	4.3
Practice activities	0.5%	2.8%	10.8%	34.7%	51.2%	4.33
Practical activities	0.0%	2.8%	14.6%	30.0%	52.6%	4.32
Problem-based activities	0.5%	5.2%	13.1%	29.1%	52.1%	4.27
Design activities	0.9%	3.3%	10.3%	35.7%	49.8%	4.29
Self-managed learning activities	0.5%	2.8%	9.9%	32.1%	54.7%	4.37

Table 29: OERs which will be searched for in the future – Part 1

I will search in the database to find OERs about:	never	seldom	sometimes	often	always	Mean
Inquiry-based learning	0.5%	3.3%	10.8%	31.0%	54.5%	4.36
Collaborative activities	0.5%	3.3%	12.8%	34.1%	49.3%	4.28
Activities promoting reflection about learning	0.9%	4.7%	13.2%	30.7%	50.5%	4.24
Testing / Exam activities	1.4%	3.8%	13.7%	35.8%	45.3%	4.20
Self-Assessment	0.5%	3.3%	16.0%	29.2%	50.5%	4.25
Collaborative Assessment	0.0%	3.8%	13.7%	32.5%	50.0%	4.29

Table 30: OERs which will be searched for in the future – Part 2

Taking all these results into account, the acceptance of the tool and the OERs is positive and already high. The statement of 90% of the participants who say that they intend to use EU-StORe in the future unpins this:

I intend to use EU-StORe in the future.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	1	0.4	0.4	0.4
	Disagree	3	1.2	1.3	1.7
	partly disagree	6	2.4	2.6	4.3
	partly argee	13	5.3	5.6	10.0
	Agree	58	23.7	25.1	35.1
	strongly agree	150	61.2	64.9	100.0
	Total	231	94.3	100.0	
Missing	9	14	5.7		
Total		245	100.0		

Table 31: Intention to use EU-StORe in the future

11.3 Conclusions

The evaluation of EU-StORe was extremely positive. The EU-StORe criteria were rated as important and useful. Therefore, it is possible to use the descriptive criteria and the core criteria of EU-StORe in broader contexts all over Europe.

Due to the TAM Usability study it was possible to redesign the EU-StORe platform in an adequate way and the acceptance survey showed that a broad acceptance of the way of dealing with OERs which is suggested by EU-StORe is widely accepted.

On the whole, EU-StORe was able to create a successful way of ensuring quality. However, for Europe it is important to create more awareness about OERs and to have a closer look at the quality of the provided OERs. It is not enough just to collect and share OERs on platforms. The EU-StORe quality criteria can be used in both general and vocational education and training (VET). They are an excellent way to foster high quality OERs all over Europe.

References

Beutner, M. (2015): Berufsbildungsevaluation. Ein Lehrbuch für Berufs- und Wirtschaftspädagogen, Studierende des Lehramts an berufsbildenden Schulen sowie Theorie und Praxis. Paderborn 2016.

Davis, F. D. / Bagozzi, R. P. / Warshaw, P. R. (1989), "User acceptance of computer technology: A comparison of two theoretical models", Management Science, 35: 982–1003, doi:10.1287/mnsc.35.8.982

Scriven, M. (1991): Evaluation Thesaurus. 4. Ed., Thousand Oaks, CA. 1991.

Stake, R. (2004): Stake and responsive Evaluation. In: Alkin, M. C. (Hrsg.): Evaluation Roots. Tracing theorists´views and Influences. Thousand Oaks California 2004.

12. EU-Related Recommendation concerning use and sharing of OER

(Sarah Land)

Germany

The use of OERs in Germany has grown steadily in popularity since 2010, when the German federal ministries of education discussed the issue of copyright infringement in schools (Muuß-Merholz & Schaumburg, 2014). The idea was to check the schools' software to uncover any violations of copyrights (spiegel.de). Teachers and schools were shocked with the outcome, and it was settled with a financial offer of 9 Million Euros to the educational publisher of school books and materials (spiegel.de). Modern school politics foster interdisciplinary teacher working groups and the exchange of school materials between professionals. Therefore, it is fair to say, that the willingness to collaborate and share materials between education professionals is growing and government policy is also continually developing in this field. German teachers are not obliged to use specific resources in class; therefore, it is important that the implementation of OER platforms in schools is successful and that teachers know where they can search for high quality materials. In total, there are three types of OER platforms in Germany (Muuß-Merholz & Schaumburg, 2014):

- Publishing platforms - where teachers and learners can publish their materials; for example: ZUM- Zentrale für Unterrichtsmedien (wiki.zum.de)
- Platform with the option to categorise the content and topics; for example: 4teachers (4teachers.de)
- Platform with search engine options; for example: Learn: line NRW (learnline.schulministerium.nrw.de)

In terms of political approaches undertaken to foster the use and implementation of OERs in Germany, BMBF (Bundesministerium für Bildung und Forschung) foster digital learning through different funding opportunities with the specific focus of developing, testing and promoting new educational programmes with digital media in vocational education and training, with an annual budget of €10 million to €14 million (bmbf.de). BMBF support projects to promote OERs such as "Mapping OER" or "NetEnquiry" (netenquiry.eduproject.eu).

For Germany it is important that

- the level of awareness concerning OER should be increased.
- a campaign in schools and enterprises should be considered to ensure increasing awareness and to foster the development, the sharing and using of OER in

Germany

- The quality criteria of EU-StORe should be used to focus much more on high quality OERs in Germany than only on the collection of files in online portals.
- OERs should be created and shared among education professionals and therefore, OER courses for teachers and trainers should be established.
- OERs should be integrated in general education as well as in VET.
- High quality OERs of other European countries are identify and translated to get access to additional relevant high quality resources available in other languages.
- OERs can be integrated in curricular structure and therefore OERs have to be a part in teacher education and further education for teachers and trainers as well.
- Moreover, it is necessary to developing digital competences of teachers and teacher students to increase the use of IT and OERs in teaching and learning.

Ireland

While the use of online resources and programmes, e-learning portals and digital resources is on the rise in Ireland, the use of OERs is still in its infancy. Although many third level students and adult learners are aware of the availability of digital learning materials, this does not always necessarily equate with the use of open educational resources, in the sense that learners and tutors in Ireland rarely adapt, re-purpose and share educational resources within their online networks in this way.

A report published by the National Forum for the Enhancement of Teaching and Learning in Higher Education in 2015, analyses the lessons learned from the development of the NDLR portal, and considers the current use of OERs in Higher Education in Ireland to identify some of the key issues which affect how OERs are accessed, adapted, shared and used in Higher Education in Ireland.

A survey was conducted within the tertiary education sector in Ireland and the findings were detailed in this report by the National Forum. The report found that, the kinds of activities that are taking place with the use of digital learning resources, but not necessarily Open Education Resources, included sticking with the text book and using the 'open' resources assigned to that; using resources from YouTube, SlideShare, Twitter, Flickr, Google docs; finding and compiling lists of resources to recommend to students and academics; using of OpenStax, a free text book provider, where chapters can be downloaded, edited and reused; accessing resources through TEDx and Coursera, Khan Academy and Stack Overflow and finally, using open source material from institutions (National Forum, 2015).

When asked how the test group share learning resources with one another, the following

list presents how lecturers, teachers and students surveyed are currently sharing learning materials, but not necessarily OERs, with one another. People are sharing PDFs, videos, images, presentations, links and lecture notes, through YouTube, SlideShare, Twitter, blogs, personal websites, Flickr, WordPress, and various repositories. Some individuals are sharing resources through a specific channel on YouTube or sharing through projects e.g. as part of team that created MyRI (on research metrics). A few participants also stated that they assign 'Creative Commons' licenses to their material for sharing.

Finally this research group were asked to comment on their use of OER repositories. Again respondents were initially unsure if they had interacted with repositories in the past, or if they have simply been re-directed there through Google or another search engine. Some identified social media platforms such as Twitter, Flickr, YouTube, etc. as repositories of OERs, however for custom-built OER repositories only, sites such as OER Commons, university OERs like Trinity College Dublin and University College Dublin, HumBox, JISC, Jorum, MERLOT, Scribd and Screencast were all mentioned.

The main outcomes of this study highlighted the varying degree of understanding and experiences in relation to the use and sharing of digital resources and OERs in Ireland. The study showed some reluctance to engage with OERs caused by a variety of perceived barriers to the use of digital and open resources in formal education (National Forum, 2015).

In terms of making recommendations for the future use of OERs, the following actions should be implemented in Ireland:

- Given the low level of awareness of OERs, the first action to ensure more widespread use of OERs in Ireland in the future would be a wide-ranging and active dissemination campaign. This campaign should highlight the value of OERs, what OERs are, and it should have a particular focus on how they can be adapted, re-purposed and shared among networks.
- On a professional level, to ensure that quality OERs are created and shared among education professionals and networks, teachers, tutors and lecturers working in tertiary education should receive up-skilling training in how to produce and use OERs, as part of their pre-service and in-service training. This should be piloted within the tertiary education sector first, where OERs are likely to be most applicable and where professionals are more likely to have used and interacted with OERs in the past; and then be offered to teachers working in VET and further education.

Italy

When it comes to equipment and usage of information and communication technology (ICT) in school, Italy lags behind most OECD countries (for example, in 2011, only 30% of Italian students in 8th grade used ICT as a regular instruction tool in science classes, compared to 48% on average in OECD countries). In this scenario, the Ministry of Education launched in 2007 a National Plan for Digital Schools (Piano Nazionale Scuola Digitale) to mainstream ICT in Italian classrooms and use technology as a tool for innovation. The main goal was to implement new teaching practices, new models of school organisation, new products and tools to support quality teaching.

The OECD defines the National Plan for Digital Schools "a well-designed Plan with big budget constraints" (p.11) that limits the effectiveness of its diverse initiatives. One of the main effects related to budget constraints in the slow introduction of ICT equipment in Italian classes. For instance in 2012, only 22% of Italian classrooms (at most) were equipped with interactive whiteboards (LIM).

In Action #23 of "Scuola Digitale", i.e. the action on the promotion of OERs and guidelines for supporting OER development, a first discrimination between two categories of OERs is made: the ones linked to the school curricula development and those that can be used as integrative resources for in-depth analyses of specific topics or skills. The first should be used for formal education courses and the latter can be used for informal learning experiences. Additionally, other possible classifications are proposed, according to format, target group, topic, "granularity" and so on.

In mainstreaming ICT in school, the national plan also includes professional development initiatives in order to support teachers in the use and in the integration of technology and digital resources into their teaching practice. According to the OECD, these professional development provisions do not meet the scale of actual professional development needs. The main challenges associated with OER integration in Italy include the lack of professional development for teachers and the lack of OERs produced in Italian. To ensure the widespread use of OER in the future in Italy, we recommend the following:

1. Improve professional development offerings for teachers, training them in the latest e-learning technologies and in how to use the most common OER databases and MOOCs;
2. Identify and translate some of the most relevant high quality resources available in other languages, and adapt them to the Italian culture and curriculum.

Romania

In Romanian educational policy, as mentioned in the 'Strategy for education and professional training 2014 – 2020', created by the Romanian Ministry National Education and Scientific Research, "the main challenge for achieving Europe 2020 goals will be in the area of diversifying the integration strategies for new technologies in schools, universities, at the workplace, in lifelong learning but also within the community, through innovative and flexible models that would allow the creation of new attractive and motivating contexts for learning." The same document states that "the recent initiative Opening Up Education puts forward an example of how Europe uses the entire potential of digital technologies to increase quality and accessibility in education and training by exploiting all advantages brought by IT and the open education resources". From this document, it is clear that the strategy focuses mostly on the promotion and integration of IT, and not necessarily dealing with the topic of Open Education and as such, it does not put forward a framework for the widespread use of OER.

In the "National Report on the Implementation of the Strategic Framework for European cooperation in the area of Education and Professional Training ET 2020" produced by the Institute for Education Sciences of Romania, it is stated that "to improve the quality of teaching and to support lifelong learning, a Virtual School Library and the School E-learning Platform was established. This platform includes school programmes, examples of lessons for all topics within the school programmes, methodological guides and examples of assessment tests." A timeline for the development of this platform is outlined in the National Action Plan July 2016 - June 2018. This platform will bring about a change in how online education resources are used in the learning process.

Despite these advances in policy governing the use of OER, the implementation of OER in Romania is still fragile. With this in mind, recommendations for the future use of OER in Romania include:

1. More prominent use of open education resources in the context in which OER represent a key preoccupation at European level. In this context, the EU-Store project really adds value, through the quality of resources that make-up the database and especially due to the quality standards that will allow each user to find the best resources to suit their needs.
2. Respecting the recommendations of the European Commission "Connect every school, ideally including connectivity to individual classrooms, to broadband, upgrade their ICT equipment, and develop accessible, open national digital learning repositories using structural and investment funds by 2020" and in this regard strengthening the IT network in schools.
3. Developing the digital competences of students and of professors; and driving them to create digital resources and to incorporate IT in all learning activities.
4. It is important to allocate public funds for research into the use of OERs and the

motivation of educational actors towards creating and sharing OERs.

5. It is also important to realise e-Inclusion through the development of digital competences.

United Kingdom

Since the UNESCO 2002 Conference on OERs, the UK has been a prominent player in OERs and has some world leading organisations promoting and implementing OERs. These are summarised in the following points:

- The UK has some of the largest OER projects in the world, including Open University's 'Open Learn', JISC (Joint Information Systems Committee) and its repository JORUM initially for Higher Education but now extended to skills and Further Education too.
- Other major University players include University College London – UCL and its Connected Curriculum, Cambridge University, London School of Economics (LSE), Manchester University, King's College, London to name just a few.
- Most prominent non-education sector entity within the OER field is the BBC. This global media giant promotes learning resources via its Bitesize pages and other related pages for both the National Curriculum delivery of Key Stage 1-4 subjects including GCSE and also for many of the wider Commonwealth market.
- Scotland and Wales have their own prominent OER movements and structures for encouraging uses of OERs within these two countries. For example, Wales has the Open Education projects OER Wales Cymru and in 2013 this tiny nation became one of the first countries to embed the concept of Open Education within a national strategy. Scotland has as its main advocate the Edinburgh University which is at the forefront of OERs in Scotland. OER16 conference was held from 19 to 20 April in Edinburgh in Scotland.
- JISC in operation for 28 years; milestones achieved – 18 Million users, 28 years in service, now extended to users and promoters of skills and 16-19 age range education i.e. colleges and Further Education, 80% funded by the Higher Education Funding Councils of England, Wales and Scotland and Department for Business, Innovation and Skill.
- Non-education sector players in OERs in UK also include many charities, private organisations and education providers such as Oxfam, Wateraid, Red Cross, Amnesty International and War Child to name a few. All these provide learning and teaching materials for teachers and parents for different stages of the curriculum from KS1 to KS4. For example War Child started in 1993, provides teachers in UK with resources specifically developed for K3 (key stage 3) level which are highly interactive and accessible as mentioned on its website and also

offer lesson plans to teachers.

- Number of schools and colleges are also involved in OERs and OER development across the UK either as consortia or in partnership with Higher Education Institutions or even on their own to promote more interactive teaching and learning via OERs. For example, Wales High School where staff share their experiences of using a range of teaching and learning approaches and resources, including those relating to digital literacy. The centrally managed blog at Wales High School (WHS) allows staff to post a resource or an idea encouraging other colleagues to review and comment on these resources and ideas. Many teachers at WHS started sharing ideas and resources and even discussed assessment of learning materials.
- Other institutions that promote OERs include British Library and all other local and regional libraries across UK.

Conclusion

In the past, learning materials and content have been regarded as key intellectual property; belonging solely to the producer of the content. The producers of content in the past have been competitive and guarded in relation to their content; treating it as their own person 'Unique Selling Point', it was expertise which only they had and they were wary of sharing it with anyone else. With the advent of Open Education Resources this all changed and within a relatively short timeframe, institutions and individuals began to share their digital learning resources freely online, with an open license so that they could be shared with others and re-purposed for use in further training.

Notwithstanding the innovation behind these recent developments in education provision, it is still necessary to safeguard the quality of all education resources developed and offered freely online through various channels and platforms. Quality assurance metrics and standards have been formed and shaped in traditional education over centuries, and they are the corner-stone of European education systems. As such, it is important and necessary that similar standards apply to OERs and Open Education.

To tackle this pertinent issue, the EU-StORe project team has collaborated over the past two years to develop a rigorous set of quality criteria which aimed to assure quality in the creation of open learning resources and activities in the future, and to rate existing open learning resources and activities. Following extensive desk-based research undertaken by all project partners, an inventory of over 170 OER was compiled from which a preliminary set of quality criteria was derived. These draft quality criteria were tested with educationalists, practitioners and experts through the completion of the 'Open Educational Quality Standards' survey. Once the results of this survey were reviewed and the feedback was incorporated, the EU-StORe team developed two types of criteria for assessing quality in

OERs. These included descriptive criteria which provide end-users with helpful data on the OER such as the name, language, aims, content, license and type of OER; and the core rating criteria which focus on the assessment of quality in the OER by evaluating eleven parameters of the OER including for example, the rights and duties, technical supports, materials, usability, media and sustainability of the OER.

To ensure the widespread assimilation of these standards into the European academic community, these criteria were published on a bespoke online platform, where users can also access the EU-StORe OER Inventory, which houses examples of quality OERs which have already been assessed using the EU-StORe quality criteria. By integrating these standards into the online inventory, the EU-StORe project has made OERs more accessible to the project target groups, i.e. the end-users and the producers of OERs. The standards developed have made it easier for both teachers and learners to search for suitable OER and also, with the rating criteria developed, it is easier for users to focus on subject-related competences which can be fostered by using quality OERs. In this way, the EU-StORe online inventory and quality criteria have been successful in providing universities, institutions, education experts, teachers, curriculum designers, education policy-makers, European bodies and individual learners with a modern, innovative tool which will allow them to actively collaborate and work in the field of Open Education and to ensure high quality in the production and use of OERs.

Annex

Insights into the Scenarios of EU-StORe

ANNEX: Insights into learning scenarios and showcases (Germany)

(Marc Beutner / Jennifer Schneider)

Learning scenario 1: Sales conversation and sales pitch

<table>
<tr><td>Title of the learning scenario

Sales conversation and sales pitch</td><td>Target group
Vocational school students
Commercial training students</td><td>Time frame of the learning scenario:
45minutes –
90 minutes</td></tr>
<tr><td>Short description of the learning scenario</td><td colspan="2">In this learning scenario the learner will be introduce to the process of sales conversations and the main parts of a sales pitch. Who are the actors? What is important of the wishes of the customer? How to present the products and to legitimize the price of the product? How should the salesman act in this sales situation. What are the benefits and USPs of the product and what is the value etc.?</td></tr>
<tr><td rowspan="4">Short description of the OER</td><td rowspan="4">The OER about “sales conversation and sales pitches” describes in a step-by- step online video a sales situation between a salesman and customer.
In 8 phases, the learner get the main information regarding the sales process. In an authentic scenario, the learner will be guided through a sales conversation.
At the end of this learning video the learner will be educate in the AIDA and ACCA model. AIDA is an acronym used in marketing and advertising that describes a common list of events that may occur when a consumer engages with an advertisement. ACCA model defines advertising goals for measuring advertising results, short DAGMAR.</td><td>URL of the OER:
http://seel.eduproject.eu/microunits/doku.php?id=m3-p4-en</td></tr>
<tr><td>Author of the OER:
Marc Beutner</td></tr>
<tr><td>Creation date:
01.12.2015</td></tr>
<tr><td>Other information:
Results of the European project SEEL</td></tr>
<tr><td colspan="2">Structure of the learning scenario with OER</td><td>Methods, use of media and didactical design</td></tr>
</table>

Introduction	The vocational school students will be introduce in marketing activities in companies. Students will be invited to discuss the main aspects of sales conversations they notice in their organization.	Classical lecture format and group discussion
Main Part	Teacher shows the online video (OER) to introduce the students to the topic sales pitch. Before the teacher starts the video he/ she ask the students to take notice about the phases of the sales conversation and the marketing models.	Online Video, classical lecture format and take notice
Last Part	After the online video about sales pitch the students should describe an sales situation about the products their company sales to customer. They should work in groups and develop authentic sales dialogs. Results should be present via power point presentations. Interdisciplinary opportunities: In computing lessons, the students will be teach in creating micro units and to upload OER to online platforms.	Create power point presentations, group work,
Reflection of the learners	Short feedback of the students about the usefulness, quality (etc.) of the video What could be improve? What are chances of the OER? Etc.	

Learning scenario 2: The basics of Pedagogy

<table>
<tr><td colspan="2">Title of the learning scenario
(Main elements of the topic and content)
The basics of Pedagogy</td><td>Target group
Vocational school students, Xth class, Pedagogical High School</td><td>Time frame of the learning scenario:
90 minutes</td></tr>
<tr><td>Short description of the learning scenario</td><td colspan="2">The learning scenario will first introduce the learner in a short history of Pedagogy, with the “father” Ian Amos Comenius. What are the teaching styles? What are the teaching methods? What means collaborative work. What are the differences between direct Instruction and Inquiry-based learning ?</td><td>Outcomes of the learning scenarios:
At the end of the lesson, all the students will know:
What are the differences between teacher approach and student centred approach;
What kind of methods can we use in our teaching lessons;
The strengths and weaknesses of individual and collaborative learning
The differences of direct instruction and inquiry based learning</td></tr>
<tr><td>Short description of the OER</td><td colspan="2">The OER present a crossword puzzle with different notions from the lesson. There is used knowledge from the new lesson. The students must know about Jan Amos Comenius, teaching styles, learning styles and collaborative work

Author of the OER:
Teacher Rozaura Simion
Creation date:
27.11.2014
Time frame of the OER:
15 minutes?

Other information:

The OER is from the Romanian teachers portal: didactic.ro</td><td>URL of the OER:
http://www.didactic.ro/materiale-didactice/rebus-la-pedagogie</td></tr>
</table>

Structure of the learning scenario with OER		Methods, use of media and didactical design
Introduction	The students will be asked to answer if they know something about Comenius, who was him, where did they found this name. Than they will be introduced in the history of pedagogy and the importance of the Didactica Magna.	Questions and answers, group discussion, expository methods Trials of the movie "Jan Amos Comenius" https://www.youtube.com/watch?v=6xD-3V0ykzhO
Main Part	Teacher will ask students to explain if they have some remarks about the teaching styles of their professors, if they appreciate one more than the others, if they prefer one or other, and why? Teacher present the importance of cooperative and collaborative learning	Working in groups, students must have a comparison between teaching styles, their advantages and disadvantages. Classical lecture, short role play with different teaching styles
Last Part	After theoretical part, students will be asked to fill in the crossword puzzle (OER) and to find the key words of it. They must use the knowledge from the lessons and to find the opportune words for all the sentences. At the end, students will have the opportunity to see what are the advantages of the collaboration.	Working in pairs/teams, students will fill in the crossword puzzle. Will be a competition: the first pair/team will be the winner. We`ll be asked to explain how they feel the others, helpful or embarrassing them
Reflection of the learners	- Discussion about the if this OER was useful or not - What kind of OER did they use? - What are the challenges of OER? - if they can find other OER for this lessons for their future work as a teachers	

Learning scenario 3: Europe of the 25

Title of the learning scenario (Main elements of the topic and content) Europe of the 25	Target group 15 – 16 year old students (secondary school) Grade 9/10 high school (German Gymnasium)	Time frame of the learning scenario: 45minutes
Short description of the learning scenario	Political classes: What would happen if the EU expanded? In this learning scenario the learner will be introduced to the problems, chances and opportunities of the expansion of the EU. The learners will analyse the specific examples in new member countries and develop an understanding of EU policies.	Outcomes of the learning scenarios: Understanding of the

Short description of the OER	Themenblätter im Unterricht (Nr.34) Europa der 25 Osterweiterung der Europäischen Union Since the first of May 2004, the European Union comprises 25 Member States. This OER examines the advantages and disadvantages of the enlargement. Hopes of „old“ and the „new“ EU member states are compared to fears. Using the example of the EU‘s agricultural policy in Poland, pupils can discuss how policy in the EU should be made to enable the Community to continue to function. The European enlargement is still not complete and more states want to be included. How large should the European Union be?	URL of the OER: http://www.bpb.de/shop/lernen/themenblaetter/36725/europa-der-25
		Author of the OER: Bundeszentrale für politische Bildung / **Bruno Zandonella**
		Creation date: **01.05.2004**
		Time frame of the OER: 15 minutes? 3h? Etc.
		Other information: No direct license, but the hint that you can use the material free and share in your classroom
Structure of the learning scenario with OER		Methods, use of media and didactical design
Introduction	The teacher will start the lesson with showing a map of Europe and provide a short quiz about the EU.	You can find the quiz under the following link: www.zum.de/zum/Europäische_Union

Main Part	The teacher will provide the learners with the printed version of the "Europa der 25" brochure. The students shall work in groups of 3-5 person and discuss the questions and tasks of the brochure. The results will be collect in a short PowerPoint presentation. All students will present and discuss their results.	Work with PowerPoint Work in groups of 3- 5 person Rules for discussion processes and working in groups
Last Part	At the end of the lesson the students will get the homework to analyse the chances and risks of the enlargement of EU.	Homework and tasks to do for the next lesson Analytical report about the chances and risks of the expansion of EU
Reflection of the learners	Feedback of the students regarding the structure of the brochure, the content Etc.	

ANNEX: Insights into learning scenarios and showcases (Ireland)

(Jennifer Land / Sarah Land / Emmy Symes)

Learning Scenario 1: Foreign Language Learning for Pre-school Children

<table>
<tr><td>Title of the learning scenario

Foreign Language Learning for Pre-school Children</td><td>Target group

Pre-school workers and professionals</td><td>Time frame of the learning scenario:

2 hours</td></tr>
<tr><td>Short description of the learning scenario</td><td colspan="2">In this learning scenario the learner will be introduced to the topic of polylingualism in pre-school aged children. Following on from this learning scenario, learners will gain theoretical and practical know-how of the benefits of polylingualism in early years' education, and will understand how to use digital alphabet books and interactive activities.

In this learning scenario, the OERs will be integrated into pre-school language development course, Tiny Talk, delivered by Meath Partnership as part of the Tiny Talk initiative. This course provides pre-school teachers and professionals with a curriculum of enriched speech, language and communication resources to help to respond to the language development and communication needs of children aged 0-6. This OER will be integrated in stages as part of a 2-day training programme.</td></tr>
<tr><td rowspan="4">Short description of the OER</td><td rowspan="4">The OER comprises a practical PowerPoint Presentation to be delivered in F2F format, with a Guide that explains the theory behind polylingualism in pre-school children. So that pre-school workers can complete coursework autonomously, learning content and resources are also hosted on the project's Moodle platform (http://alphaeu.org/index.php/training-for-adults). On this platform, pre-school teachers and professionals can log on, to complete quizzes and exercises, as well as to access the digital alphabet books in English, Greek, Italian, Portuguese, Romanian and German. These can be used with their pre-school groups.</td><td>URL of the OER:

http://alphaeu.org/index.php/training-for-adults</td></tr>
<tr><td>Author of the OER:

AlphaEU Project Consortium, led by the Centre for the Advancement of Research and Development in Educational Technology (Cyprus)</td></tr>
<tr><td>Creation date:

01.05.2014</td></tr>
<tr><td>Other information:
Results of the European project AlphaEU</td></tr>
</table>

Structure of the learning scenario with OER		Methods, use of media and didactical design
Introduction	The pre-school workers and teachers will be introduced to the topic of polylingualism for pre-school children. This will include some information on language awareness, intercultural appreciation and competence. Learners will then be invited to discuss the main aspects of polylingualism for pre-school children in an informal group chat.	PowerPoint presentation which introduces the main topics to be discussed. Learners will also be given a copy of the Adult Mediator Handbook which will support their learning and their use of the tools once the training has been completed.
Main Part	The tutor will log onto the AlphaEU website and Moodle platform and will introduce learners to the digital alphabet books and activities for pre-school aged children. A few sample games will be played, and the tutor will also play the audio from some of the digital alphabet books. Using the PowerPoint Presentations, the tutor will also introduce the learners to the benefits of polylingualism, the benefits of using IT in the pre-school classroom and will also introduce the learners to the two characters in the books, Alpha and Zara.	Use of online Moodle Platform and digital alphabet books and activities; use of PowerPoint Presentation and the Adult Mediator Guide.
Last Part	The tutor will now focus on how to integrate the digital alphabet books into the pre-school curriculum. The tutor will use the PowerPoint presentation to support learners in lesson planning using the digital alphabet books. Learners will be split into smaller working groups to brainstorm and complete the lesson plan template.	PowerPoint Presentation, create a template for a sample lesson plan.
Reflection of the learners	Learners will be asked to provide feedback on the design, content, relevance and usefulness of the training tools and the digital alphabet books and interactive activities. They will also be asked to identify potential uses for these OERs in the future.	

Learning Scenario 2: Sales and Marketing for Entrepreneurs

<table>
<tr><td>Title of the learning scenario

Sales and Marketing for Entrepreneurs</td><td>Target group

Adult learners who are considering setting up their own business and need to develop a marketing strategy.</td><td>Time frame of the learning scenario:
2 hours</td></tr>
<tr><td>Short description of the learning scenario</td><td colspan="2">In this learning scenario the learner will be introduced to the topic of marketing. This scenario will comprise watching a series of four 15-minute video lectures, a formal input by the tutor, followed by a group discussion about the content of the video lectures. Learners will then complete short individual exercises where they identify the 4P's (Price, Product, Place, Promotion) in relation to their business idea and create an outline of their business marketing strategy.

In this learning scenario, the OER has been integrated into the Business Options training programme, which is a start-your-own-business course delivered by Meath Partnership.</td></tr>
<tr><td rowspan="3">Short description of the OER</td><td rowspan="3">This OER which comprises four 15-minute video lectures all on the topic of marketing for businesses is one module of a longer 6-module entrepreneurship course. This programme was designed for beginners or nascent entrepreneurs, and is accessible to anyone with an interest in setting up their own business, or anyone who needs to develop a marketing strategy for business.

In this module, learners will examine the essential marketing activities required for building business success and explore the channels of communication that can be exploited to deliver marketing messages. Learners will identify the benefits of having a brand and begin the process of creating and maintaining both their personal and their business brand.
As well as this, the skills, techniques and selling styles of the most successful sales people, will be studied in this module. Following the successful completion of this module, learners will begin to develop their own selling style and techniques.</td><td>URL of the OER:

http://undermywing.eu/ie/elearning/modules/:displaycategory/4</td></tr>
<tr><td>Author of the OER:

Under My Wing Project Consortium, led by Meath Partnership (Ireland)</td></tr>
<tr><td>Creation date:

01.05.2014

Other information:

Results of the European project Under My Wing</td></tr>
</table>

Structure of the learning scenario with OER		Methods, use of media and didactical design
Introduction	The tutor will introduce the topic of marketing and will play the short 15-minute video – Introduction to Marketing. This contains a definition of marketing; as well as some information for entrepreneurs to identify their target market, examine their market competition and identify the resources available to their business. Following this video, the tutor will lead a short group discussion to reflect on the main points of the video and answer any questions arising.	Video lecture which is synced with a PowerPoint Presentation on the topic of marketing; a short group discussion.
Main Part	The tutor will play a series of three video lectures for the learners. These video lectures are on the following topics: 1. The Marketing Mix; 2. Branding – why it's important and how to create a brand; 3. Selling – different styles and techniques In between each video lecture the tutor will host a short reflection and discussion to highlight any areas which may have been unclear or any aspects which the group should take note of when creating their marketing strategy.	Video lecture which is synced with a PowerPoint Presentation on the topic of marketing; a short group discussion.
Last Part	Once all of the online video lectures have been completed, the tutor will present the learners with a document template which will ask them to analyse their business idea to identify the 4P's for their business. This worksheet will have a series of boxes where learners can write about the Price, Product, Place and Promotion of their business, and can be prompted to write a short outline of what should be in their business marketing strategy. The tutor will be on-hand to assist the learner in writing this strategy outline. After the completion of this module, the learners should understand the important of marketing, should be able to identify their selling style, should know the steps to take to develop their brand and should leave the learning scenario with a clear idea of what their business marketing strategy should look like.	Create a short template for learners to write the 4P's and the outline of their marketing strategy
Reflection of the learners	Learners will be asked to provide feedback on the design, content, relevance and usefulness of the training tools.	

Learning Scenario 3: Health Coaching for VET professionals and front line staff

<table>
<tr><td>Title of the learning scenario

Health Coaching for VET professionals and front line staff</td><td>Target group

VET professionals and front line staff working in adult education</td><td>Time frame of the learning scenario:

2 hours</td></tr>
<tr><td>Short description of the learning scenario</td><td colspan="2">In this learning scenario the learner will be introduced to the concept of salutogenesis as a means of combatting the stress and pressures that professionals working in VET and adult education settings can experience. The material covered in this learning scenario is part of a modular programme for VET and adult education professionals. This learning scenario will cover the module: ‘My Plan’. Following on from this learning scenario, learners will gain practical information, tips and templates to help them to manage their time and set professional and personal goals more effectively.

In this learning scenario, the OER has been adapted and integrated into the QQI-accredited Train-the-Trainer Programme which is delivered by Meath Partnership. This course is targeted at adult education professionals and front-line staff who require a formal qualification in their professional role.</td></tr>
<tr><td rowspan="4">Short description of the OER</td><td rowspan="4">The OER comprises a practical handbook which the tutor is encouraged to distribute to adult education and VET professionals who attend the training. This handbook contains all of the content which the tutor needs to deliver the complete curriculum, including an overview of the aims and objective, a description of the modules, the curriculum content and a suite of exercises for the tutor to implement with the learners. Tutors can choose to create their own PowerPoint Presentations based on the content of this handbook – to help them to deliver the course – or they can deliver the course in a less formal workshop setting where the learners complete practical exercises and participate in group discussions.</td><td>URL of the OER:

http://www.balanceproject.eu/site/training/Balance_handbook_EN.pdf</td></tr>
<tr><td>Author of the OER:

Balance Project Consortium, led by the ttg team training GmBH (Germany)</td></tr>
<tr><td>Creation date:

01.05.2014</td></tr>
<tr><td>Other information:

Results of the European project Balance</td></tr>
</table>

Structure of the learning scenario with OER		Methods, use of media and didactical design
Introduction	The learners will be introduced to the concept of salutogenesis and the connection of salutogenesis to the topic of goal setting and time management. Learners will then be asked to complete a short exercise called 'the bucket list'. This is an exercise to introduce the learners to the topic of goal setting, and how to set goals more effectively.	PowerPoint presentation which introduces the main topics to be discussed – the tutor would have to create this for the session but all of the information required is contained in the introduction to the handbook and in the module content. Learners will also be given a copy of this handbook so that they can complete the rest of the modules autonomously.
Main Part	Next, the tutor will introduce the learners to the topic of time management. To deliver this content, the tutor will give a formal input through a PowerPoint Presentation and will then ask the learners to complete a Time Management Matrix – this can be done individually or as a group using a flipchart. The aim of this matrix is to get learners thinking about the 'urgency' and 'importance' of items on their 'to-do' list. Learners will then be asked to review their 'bucket list' and pick the most important goals using either this matrix, or by using the SMART Goals model. Once this has been completed, learners will then briefly be asked to pick their 3 top goals and list the tasks associated with achieving them.	PowerPoint Presentation (if required). A template for a Time Management Matrix or use a flipchart and marker to draw and complete the matrix as a group.

Last Part	Finally the tutor will play a short video on YouTube – this video is called 'Filling the glass jar'. This video introduces the importance of time management for scheduling upcoming tasks. The tutor will then give a short input on the topic of prime-time vs. down-time and will complete the short exercise with the learners. On completion of this learning scenario, learners should be better equipped to manage their time, goals and professional tasks more effectively. As a direct result of this training, learners should be better able to cope with the stresses of their jobs and to maintain positive mental health in the workplace.	The YouTube video can be accessed at: https://www.youtube.com/watch?v=6_N_uvq41Pg PowerPoint presentation (if required). A template for a Prime-Time vs Down-Time worksheet or use a flipchart and marker to draw and complete this exercise as a group.
Reflection of the learners	Learners will be asked to provide feedback on the content, relevance and usefulness of the handbook for reducing stress in their professional roles. They will also be asked to identify potential uses for these OERs in the future.	

ANNEX: Insights into learning scenarios and showcases (Italy)

(Agrusti / Muscillo / Damiani)

A1 Learning scenario 01

The Learning scenario developed by LUMSA for the use of the OER on Mathematics (word problems and proportionality) (http://www.scuolavalore.indire.it/nuove_risorse/una-merenda-dalla-lepre-marzolina) was selected to be inserted into the activities of the graduate course for future primary teachers as a useful starting point to introduce students to an effective use of OER into teaching practices. The core idea was to help teachers in design their activities with the aid of a good selection of ready-made materials, well integrated into their own specific course planning. In this sense, the possibility to reach for verified OERs and the ability to integrate those into the daily practices constituted the main theme of a set of lessons that presented, firstly, the EU-StORe project in its general aims and expected outcomes, and secondly, the OERs concept and the learning scenario implementation here detailed. This scenario was presented on April 14th, 2016 (from 12 to 14 am) to 51 students of the Graduate course for Primary education teachers at LUMSA University by prof. Gabriella Agrusti.

The showcase for learning scenario offered the possibility to make future teachers' understand the following basic principles of instructional design:

- Variety in teaching strategies applied to different aims (from brainstorming to working sheets, to the use of rhymes, songs and videos)
- Analogy-based teaching models (the core topic of the learning scenario were word problems and proportionality, and in this sense, the narrative framework was just the occasion to introduce the topic, based on a specific part of the novel)
- Cooperative learning opportunities (as of course most of activities were designed to be carried out in pairs or in small groups)
- Learner-centred approach, in line with what already mentioned about active learning approaches.

Participants were asked to provide feedback on the showcase, according to the following prompts:

- What do you think about OERs? Did you ever consider them from a qualitative perspective?
- How the EU-StORe database could be useful to your prospective teaching

activities?
- What impressions did you get from the learning scenarios? Do you think it would be feasible in a normal teaching context?

Reactions were pretty good and the idea to have a "place where to find good OERs" was very well accepted by future teachers. The learning scenario received also a set of comments, and the possibility to have a variety of techniques and strategies to tackle the same learning topic was deemed relevant for instructional design. Below are reported some comments:

- E' uno strumento dinamico e vario da cui attingere molto veloce ed efficace (EU-StORe DB is a dynamic and varied tool, quick and effective)
- Secondo me, risorse didattiche aperte è molto utile per promuovere il processo di insegnamento essendo accessibile (In my opinion, OERs are useful to promote teaching strategies as they are accessible)
- È un utile modo per disporre delle informazioni giuste, già valutate ed evitare la disinformazione (it is a useful way to get to right information, already assessed and to avoid misinformation)
- Penso sia chiaro, forse anche utile, fondamentale la spiegazione nei vari punti che elencano i vari passaggi da seguire (I think the learning scenaio is clear, perhaps also useful, and fundamental in the explanation of the different passages that you need to follow).

A2 Learning scenario 02

The second Learning Scenario (LS) developed by LUMSA "Use of ICT and peer argumentation in high school students" is related to the development of argumentative skills integrated to the ICT in the traditional classroom environment. This scenario was presented on May 5th, 2016 (from 10 to 12 am) to 29 students of the Graduate course for Primary education teachers at LUMSA University by Dr. Elisa Muscillo.

The OER consisted in a series of activities distributed as a pdf document available on the platform (http://www.scuolavalore.indire.it/nuove_risorse/argomentare-insieme/).

The presentation of the LS highlighted the role of a teacher in education that can influence students' school related motivation, emotion and performance. An important school issue is the students' low motivation in learning processes.

The showcase for learning scenario offered the possibility to make future teachers understand the following basic principles of instructional design:

- argumentation skills;
- ability to assert one's point of view and to evaluate other people's perspective;

- acquisition of the habit to think with logical rigor, to identify problems and possible solutions;
- ability to read and critically interpret the content of the different forms of communication.

Participants were asked to provide feedback on the showcase, according to the following prompts:

- Do you think that OERs could help learning and teaching as well?
- Would you suggest the EU-StORe database to colleagues for teaching activities?
- What impressions did you get from the learning scenarios?

The learning scenario received also a set of comments by future teachers, especially about the nature of the task that shifts from teacher centered to student centered. The learning scenario received also a set of comments and a few of the feed-back reactions are reported below:

- Sono una buona risorsa, devono essere alla portata di tutti sia in base ai costi che riguardo la facilità (OERs are good resources; they must be affordable in terms of monetary cost and learning curve);
- Penso che il database Eu-StORe sia strutturato in maniera chiara e semplice da poter essere compreso da tutte le persone (I think that EU-StORe database is well structured and easy to understand and use);
- A mio parere sarebbe molto utile usufruire delle Oer per l'insegnamento, puntando anche sull'interattività delle lezioni (In my opinion, using OERs for teaching would be very interesting especially relying on interactive materials);
- Ritengo che sia efficace perché prevede il confronto e la discussione in classe (I think it is effective since it is focused on discussions among the class);
- Può essere utile per allenare la capacità di collaborare degli alunni e mettere in gioco le loro risorse e capacità (It can be useful to train collaboration skills in students and to foster them to put into play their resources and capabilities);
- Serve per elaborare ciò che deve fare un insegnante quindi è utile per organizzare vari argomenti da trattare (It is useful to list what a teacher have to do and to help teachers to prepare their lessons effectively);
- È molto dettagliato e preciso nell'esporre una scaletta da seguire, in poche parole ti da tutti i passi da seguire in modo semplice e comprensibile (It is very detailed in listing a clear step by step guide)

A3 Learning scenario 03

The third Learning Scenario (LS) developed by LUMSA "Introducing global citizenship in

your classroom: tackling global inequalities through food sovereignty" is related to Global Citizenship Education (GCE). The main aim of the LS is to develop students' knowledge and awareness in relation to one of the most prominent topic regarding global inequalities and sustainable development. Moreover, it allows presenting the concepts of developed/developing countries and the Human Development Indicator to evaluate worlds' countries socio-economic status. In this learning scenario, learners are introduced to the issue of food sovereignty in developing countries. The learning scenario also shows to students the main features of fair trade and allows them to explore their purchasing habits in relation to food.

The outcomes of the learning scenario are mostly related to knowledge development of:

- the main features of developed and developing countries;
- the HDI (Human Development Index);
- the main features of agriculture in developing countries;
- the origin of the food we eat in Italy;
- small farmers agricultural models in developed and in developing countries;
- the threats small farmers in developing countries are facing;
- the concept of food sovereignty and the ways to promote it;
- the agricultural productive chain;
- fair trade.

The showcase related to this LS was presented by Dr. Valeria Damiani to 12 PhD students of the doctoral school "Culture, Education, Communication" at Roma Tre University on May 25th 2016 (from 13 to 15 pm).

The presentation of the LS highlighted several areas of concern related to the introduction of GCE into the Italian school practice. These concerns, which were discussed in plenary, were related to:

1. the importance of considering the basic knowledge students require before the instruction on GCE, the potentiality of OERs usage on GCE and of participatory pedagogies for an effective learning;
2. possible teachers' difficulties in tackling GCE topics for lack of specific pre-service and in-service training on applicable contents and teaching methodologies;
3. problems in teaching contemporary and controversial issues with a neutral and dialectic approach, in order to help students become autonomous individuals who can be critically engaged in the modern world.

PhD students gave positive feedbacks in relation to the LS and the showcase, as it made them aware of the international debate on GCE and its possible integrations in the Italian curriculum.

Some comments are reported below:

- il learning scenario è stato molto efficace perché integra OERs, discussione in classe e lavori di gruppo tra studenti (the learning scenario was very effective because it combines OERs, plenary discussions and group-work among students);
- Le OERs rappresentano un ottimo strumento per realizzare percorsi didattici sulla GCE in Italia (OERs represent a very useful tool to implement teaching activities on GCE in Italy).

ANNEX: Insights into learning scenarios and showcases (Malta)

(Philip Bonanno)

Developing EU-Store Learning Scenarios with OER

The three learning scenarios discussed below were developed considering a Connectivist perspective to technology-mediated learning. Learning is considered as a process of interactions with the domain of knowledge or competence which in the 3 scenarios described below include the area of Assessment, Digital Literacy and Autonomous learning. Another aspect of learning is the interactions with and through technologies, including the digital devices used to interact with the learning scenarios and related OERs, interaction with on-line environments, tools and media. The scenarios also include social level of learning comprising interactions with peer students or learners, learning communities, communities of practice and field experts. These 3 interactional dimensions are operationalised through a number of learning design standards, mainly Conceptual, Structural and navigational principles. Each scenario was thus developed using these principles. Evaluation of the Showcases was also structured using these principles, mainly through the seed questions used during the focus group discussion.

Three learning scenarios using three different OERs were developed and evaluated. The first scenario is about the theme 'Assessment For Learning' which was carried out with a group of in-service teachers during a professional development session. Both the scenario and the subsequent evaluation (showcase) was delivered and managed by a Head of Department for Assessment. The second scenario deals with development of digital literacy in adults. This scenario was carried out and evaluated with a small group of adult learners enrolled for the unit about 'Digital Citizenship' within the Bachelor's course in Liberal Arts and Sciences at the University of Malta. The third scenario and showcase deal with the use of the ePortfolio to promote autonomous learning. This showcase was delivered to two groups of undergraduate students enrolled for the Bachelors in Education at the University of Malta.

The methodology adopted for the evaluation of the three learning scenarios / showcases was the focus group approach using a semi-structured format through the use of a number of seed questions. The following questions were used to stimulate and guide the discussion within the groups:

- Conceptual design – Does the OER covers the topic / theme thoroughly? Are the learning outcomes clear and comprehensive with regards to the theme?
- Structural design: Is the theme developed in a logical and structured manner?
- Interactional design - Did you have problems accessing any part of the activity

or navigating through the OER?

- Use of OER – Will you use this OER in your professional practice?
- Do you recommend doing this activity about this OER (Scenario) with your colleagues? Do you suggest any other target group? Did you find any difficulty while doing this activity? Any suggestions for improvement of this activity?

Learning Scenario 1: Assessment FOR learning

The Learning Scenario using the 'Assessment FOR Learning' OER was carried out with a group of teachers during a Continuous Professional Development session. The activity was developed using the on-line version found at:

http://www.education.vic.gov.au/school/teachers/support/Pages/module2.aspx

Title of the learning scenario (Main elements of the topic and content) Assessment FOR Learning		Target group Teachers	Time frame of the learning scenario: Nine 1-hour sessions (Either delivered in class or as separate on-line activities).
Short description of the learning scenario	Assessment FOR learning occurs when teachers use inferences about student progress to inform their teaching. It is frequent, formal or informal (e.g. quality questioning, anecdotal notes, written comments), embedded in teaching and provides clear and timely feedback that helps students in their learning progression. It has a formative use providing evidence that informs, or shapes, short term planning for learning.		Outcomes of the learning scenarios: After completing this unit teachers will be able to: ▪ Make planning decisions for assessment FOR learning purposes ▪ Audit their own assessment practices to see how well they provide timely feedback to students that assists student learning ▪ Recognise the types of written feedback teachers commonly give to students, and give better quality feedback ▪ Create additional formal and informal opportunities to gain evidence of student learning in order to improve it ▪ Ask better quality questions as a key strategy in assessment for learning to gain feedback that shapes their teaching ▪ Identify the data available for a single student and use it to inform planning for learning ▪ Plan and implement some classroom-based actions following this module.

Short description of the OER	This OER is a Unit within a course about Assessment approaches. It is a learning activity about Assessment FOR Learning including activity sheets Author of the OER: The Department of Education and Training State Government, Victoria. Creation date: September 2013 Time frame of the OER: Nine 45mins slots Other information:	URL of the OER: http://www.education.vic.gov.au/school/ teachers/support/Pages/module2.aspx
Structure of the learning scenario with OER		Methods, use of media and didactical design
Introduction	Begin this session sharing ideas that participants have tried in the previous session about ‚Assessment OF Learning'. Discuss what worked and what didn't and ideas to try next time.	Use on-line forum to record discussion

Main Part	1. Participants go through provided PPP about ‚Formative Assessment and its implications for Classroom Practice‘. 2. Groups of teachers will use the assessment planning process to make decisions when the purpose is assessment FOR learning. 3. Through pondering prompts teachers can assess their current feedback processes and discuss productive strategies and sources. 4. Giving feedback on Feedback. Participants will find out what students think of teacher feedback. 5. Giving Better Written feedback. Through analysing written feedback teachers can identify where they are giving feedback that helps students learn and any traps they are falling into. 6. Gaining Evidence for Learning: This explores a range of ways to gather evidence for learning purposes. 7. Quality Questions This activity involves peer observation where teachers observe, share and debrief about how well they are asking questions to gain evidence of students‘ learning.	PPP used either for Class discussion, or for’ Small group discussion’ or for ‘Individual Reflection’ in Flipped Classroom approach. Participants will use Activity Template: ‘Planning Decisions: Assessment FOR Learning’. Participants will use Activity Template: Giving Feedback. Participants will use handout with samples of feedback from students Participants will use handout with samples of feedback from students Participants will use Activity Template: Gaining Evidence for Learning Participants will use Activity Template: Quality Questions.

	Activity 3-6A What do I know about this student? (PDF - 93Kb) Teachers choose two ‚thermometer‘ students and find all the available evidence to build learning profiles that shape their teaching program. Activity 3-6B Using evidence of learning FOR learning (PDF - 81Kb) Using assessment of learning evidence to improve future learning experiences. Activity 3-7 Assessment Actions from Module 3 (PDF - 73Kb) This will assist in planning follow up actions. Professional Reading for module 3 (PDF - 65Kb) This material provides additional ideas and draws together some important ideas for this module. Module 3 Resources Additional web links and texts are available here to follow up the ideas in this module. Teacher Support Resources Curriculum Planning Assessment and Reporting Assessment Advice Multi-domain Assessment Tasks Assessment Tools Assessment Professional Learning Introduction Module 1 Connecting Assessment with Learning Module 2 Assessment OF Learning Module 3 Assessment FOR Learning Module 4 Assessment AS Learning Module 5 Making Consistent Judgements	

Last Part	Applying AFL with identified students. Teachers choose two ‚thermometer' students and find all the available evidence to build learning profiles that shape their teaching program.	Participants will use Activity Template: What do I know about this student?
Reflection of the learners	Participating teachers discuss the AFL process by comparing information they obtain in the different activity templates.	Use on-line forum to collaborate and record this activity.

Learning scenario 2: Digital literacy

<table>
<tr><td>Title of the learning scenario

Being Digital</td><td>Target group
Undergraduate student teachers
Participants in adult education courses</td><td>Time frame of the learning scenario:

90 minutes</td></tr>
<tr><td>Short description of the learning scenario</td><td colspan="2">In this learning scenario the learner will be introduce to the concept of digital literacy, identify the competences characterising a digitally literate person and evaluate their level of competence for each of the competence category considered. Learners will be guided to design a personal development plan to improve their competences.</td></tr>
<tr><td rowspan="4">Short description of the OER</td><td rowspan="4">The OER 'Being Digital' is a self-assessment checklist comprising statements about four categories of digital skills. Each statement is scored on a 3-point Likert scale according to the level of confidence: Very Confident, Quite Confident, Not confident. The four categories of skills include: Understanding digital practices, Finding information, Using information and Creating information. After each question, related on-line activities are provided with suggestions to develop or improve that particular competence.</td><td>URL of the OER:
http://www.open.ac.uk/libraryservices/pages/dilframework/self_assessment_checklist.pdf</td></tr>
<tr><td>Author of the OER:
Open University, UK.</td></tr>
<tr><td>Creation date:
2014</td></tr>
<tr><td>Other information:
One of the resources within the OERs library of the Open University, UK related to the theme: Being digital - Skills for life online</td></tr>
<tr><td colspan="2">Structure of the learning scenario with OER</td><td>Methods, use of media and didactical design</td></tr>
</table>

Introduction	Show YouTube video entitled 'What is Digital Citizenship': https://www.youtube.com/watch?v=oCkTmZ0bF5Q Participants give their comments about the video and what interested them in it.	Seminar session involving a combination of short presentations, group discussion and individual on-line activities

Main Part	Use Powerpoint presentation with the following orienting questions: How confident are you that you can work effectively, and safely, online? When you search for information, are you confident that you will be able to find the right information quickly? Do you know how to tell if the information you find is relevant, and from a good source? Do you know how to make the best of online networking tools like Facebook and Twitter? Are you happy with the way you present yourself online, and do you know how to manage your 'digital identity'? Present the 'REPs digital Citizenship Model: Respect, Educate and Protect.' Organise class discussion and comments about proposed video according to this model considering the following themes and topics: Respect Your Self/Respect Others including: - Digital Etiquette - Digital Access - Law about activity and behavior in digital environments and content. Educate Your Self/Connect with Others including: - Digital Literacy - Communication through digital means - e-Commerce Protect Your Self/Protect Others including: -Rights and Responsibility in digital environments - On-line Safety (Security) - Health and Welfare in relation to digital technologies	Online Video, classical lecture format and take notice

Last Part	The skills you need for all of these situations are known as ‚digital literacy‘. These are skills that are not only useful in your personal life, but can be invaluable at work. In a digital age, they are all essential to employability. Complete the attached literacy skills checklist ‘Being Digital’. This will help you to gauge your level of confidence in a range of digital literacy skills.	Individual activity: Reflection about level of digital literacy using checklist.
Reflection of the learners	Identify the skills for which you have indicated that you are ‚quite confident‘ or ‚not confident‘. Improve these skills by using the ‘Being digital activities’ found at: http://www.open.ac.uk/libraryservices/beingdigital/pathways	

Learning scenario 3: ePortfolio Template from Google Sites

Title of the learning scenario Using ePortfolios in Class	Target group B. Ed (Hons) undergrdauate students in the course for initial teacher education	Time frame of the learning scenario: 120minutes
Short description of the learning scenario	In this learning scenario students will be introduce to the ‘Simplified Teaching Portfolio Template for Pre-service Teachers’ from Google sites. They will be guided to develop various learning activities to be managed by their class students. In the process basic principles in information design and learning design will be introduced.	

<table>
<tr><td>Short description of the OER</td><td rowspan="4">The ‘Simplified Teaching Portfolio Template for Pre-service Teachers’ provides an on-line environment where student teachers can develop on-line learning activities for their classes. The template provides different types of webpages (Web page, File cabinet, Announcements and List). The Web Page template has three main sections – content section, resource section and comments section. It provides various editing tools to structure content for an activity and provides users with the possibility of integrating reflection (before, during and after the activity) through the use of the ‘Comments’ section. Web page can be created both at the top level and as subpages to other top pages.</td><td>URL of the OER:
https://sites.google.com/site/sites/system/app/pages/meta/dashboard/create-new-site.
(select the ‘Simplified Teaching Portfolio Template for Pre-service Teachers’ from the template gallery).</td></tr>
<tr><td></td><td>Author of the OER:
NA</td></tr>
<tr><td></td><td>Creation date:
NA</td></tr>
<tr><td></td><td>Other information:</td></tr>
<tr><td colspan="2">Structure of the learning scenario with OER</td><td>Methods, use of media and didactical design</td></tr>
<tr><td>Introduction</td><td>Students develop an introductory page describing what an ePortfolio is, how it is used to promote reflection, and how it can serve as a tool to promote self-directed learning.</td><td>Learning by designing approach.
Individual and collaborative activities</td></tr>
</table>

Main Part	Student teachers (STs) should create four web pages dedicated to the following modes of learning: Instruction, Exploration, Designing and Collaboration. They should also identify a topic / theme for each mode of learning. STs then should develop learning activities according to the mode of learning using the following template: Topic Learning Outcomes Pre-requisites Introduction to Activity Steps of the activity Practice (If applicable). Assessment Post-activity (link to other learning activity/ies). This template should be structured in the editable section of the page. Any files should be uploaded in the dedicated section. Suggestions for reflection before, during and after the activity should be included in the various steps but structured in the 'Comments' section through appropriate questions by the tutor (in this case the ST).	Individual and collaborative learning design activities.
Last Part	Student teachers divide themselves into groups made of 3 or 4 members. Using their email they share with each other the developed ePortfolios and evaluate each other designs considering conceptual, structural, metaphorical and navigational design criteria. Feedback is given for each page using the comments section. By the end, each comment section should include feedback from the other group members.	Peer evaluation through on-line collaboration

Reflection of the learners	Student teachers reflect on the potential and shortcomings of this ePortfolio template in promoting reflection in learning and in developing autonomous learning competence. They should also reflect about the proposed learning design approach based on the identified modes of learning and the proposed learning design template. Short feedback of the students about the usefulness, quality (etc.) of the video They should propose some recommendations about how the use of the template and the design method could be improved.

Evaluating the Showcases

The evaluation of the showcases was carried out through focus groups comprising tutors and participants. Tutors led the discussion using seed questions and recording participants' response and contribution through personal notes. The questions used were about the Conceptual , Structural and Interactional design of the pedagogical scenario developed around the identified OER. The following questions were used to guide discussion in focus groups:

- Conceptual design – Does the OER cover the topic / theme thoroughly? Are the learning outcomes clear and comprehensive with regards to the theme?
- Structural design: Is the theme developed in a logical and structured manner?
- Interactional design - Did you have problems accessing any part of the activity or navigating through the OER?
- Use of OER – Will you use this OER in your professional practice?
- Do you recommend doing this activity about this OER (Scenario) with your colleagues?
- Do you suggest any other target group? Did you find any difficulty while doing this activity?
- Do you have any suggestions for improving this activity?

Showcase 1: Assessment FOR Learning

The Learning Scenario using the 'Assessment FOR Learning' OER was carried out by the Head of Department for Assessment at the Secretariat for Catholic Education in Malta in collaboration with the EUStORE local coordinator. This activity was delivered with a group of teachers during a Continuous Professional Development session using the on-line version found at: http://www.education.vic.gov.au/school/teachers/support/Pages/module2.aspx

At the end of the session evaluation of the AFL activity and the OER were carried through a group

discussion guided by questions from the tutor (HoD). Feedback was recorded by the HoD taking personal notes. Questions:

1. Does the module about AFL cover the topic / theme thoroughly?
   This module emphasis feedback, which is good, because feedback is an important factor in AFL, it but does not elaborate on two strategies :
   i) Sharing the learning intention or any new learning with students at the beginning of the lesson,
   ii) Sharing success criteria with students.

2. Are the learning outcomes clear and comprehensive with regards to the theme?
   The learning outcomes provided by the module were evaluated and amended during the discussion.
   After completing this AFL Module teachers will be able to:

   - Make planning decisions for assessment FOR learning purposes,
   - Audit their own assessment practices to see how well they provide timely feedback to students that assists student learning
   - Recognise the types of written feedback teachers commonly give to students
   - Give better quality feedback by being more specific, Eg - Identify 2 or 3 positive things and 2 or 3 mistakes in a student's work.
   - Create additional formal and informal opportunities to gain evidence of student learning in order to improve it.
   - Ask better quality questions. A key strategy in assessment for learning is to gain feedback that shapes their teaching questions which should not be asked solely for this reason. Questioning should also make students reflect on their learning, on the difficulties they are finding and why.
   - Identify the data available for a single student and use it to inform planning for learning. (This
   - outcome is not clear; it should not be for a single student.)
   - Plan and implement some classroom-based actions following this module. This outcome is too vague - outcomes should be specific, timely and measurable.

3. Is the theme of AFL developed in a logical and structured manner?
   This theme could be developed better considering the following sequence:
   i) Identify where students stand in their learning
   ii) Share the learning intention
   iii) Share success criteria
   iv) Employ questioning techniques to make students reflect on their learning

and so become more responsible for their leaning.

v) Give effective formative feedback, to help student ask 3 principal questions:

1. Where am I now?
2. Where am I going?
3. How do I close the gap?

AfL is based on these 3 questions

vi) + vii) Student's self-assessment and peer assessment

Strategies 6 and 7 build up on the previous. But then, Feedback builds up on Success Criteria, which is linked to the Learning Intention, which develops from teacher's Understanding of where students stand in their learning. So each strategy follows the other and build up on it.

4. Did you have problems accessing any part of the activity or navigating through the module?

   There is room for improving the usability of the OER. For example the proposed document 'Formative Assessment: Implications for classroom practice' could not be accessed. On the other hand the PPP was quite straightforward and good though slide 16 about 'Feedback' should be linked to the learning intention.

5. Will you use this OER in your professional practice?

   Yes following a thorough re-structuring of the module and using it in a more flexible mode adopting a strategy of developing learning activities by combining different sections from it.

6. Do you suggest any other target group?

   Groups of teachers taking CPD sessions, students in Initial Teacher Education, Mentor teachers.

Showcase 2: Being Digital

The Learning Scenario using the 'Being Digital' OER was carried out with a group of adult learners taking a unit about 'Digital Citizenship' within the Bachelors course in Liberal Arts and Science. The activity was developed using the on-line version found at:

http://www.open.ac.uk/libraryservices/beingdigital/pathways

At the end of the session evaluation of the activity about the digital literacy and this OER were carried through a group discussion guided by questions from the tutor.

Does the OER covers the topic / theme thoroughly?

Yes. The REPs (Respect, Educate and Protect) digital Citizenship Model is very well discussed in this OER. The most important aspects of what it means to be digitally literate is considered by this model.

Are the learning outcomes clear and comprehensive with regards to the theme?

The OER is based on clear and focused learning outcomes that will help participants develop specific competences by the end of the proposed activities. The 'Respect Your Self/Respect Others' dimension promotes specific understanding and skills with regards to digital etiquette, digital access and relevant aspects of digital law. The 'Educate Your Self/Connect with Others' dimension develops specific competences in digital literacy, communication and e-Commerce. Similarly, the 'Protect Your Self/Protect Others' dimension enables participants to become aware and develop the necessary skills regarding digital Rights and Responsibility, Digital Safety (Security), Health and Welfare in relation to use of digital technologies.

Structural design: Is the theme developed in a logical and structured manner?

The 'Being Digital' theme is developed through a number of learning activities each focused on identified learning outcomes that are presented in a very logical and accessible way online. The design of this OER definitely follows key learning and information design principles such as networking of focused learning activities, chunking of content around central ideas or skills, short stand-alone activities that take a short time (10 – 15mins) to complete.

Interactional design - Did you have problems accessing any part of the activity or navigating through the OER?

The 'Being Digital' OER is organized in a website that has a very user friendly interface, with all activities organized in learning pathways that enable users to navigate focusing only learning only. All proposed resources are easily accessible and mostly downloadable enabling revisiting in off-line modes.

Use of OER – Will you use this OER in your professional practice?

All participants agreed that they will continue to follow the OER 'Being Digital' and even encourage other adults to make use of it to become digitally competent.

Do you recommend doing this activity about this OER (Scenario) with your colleagues? Do you

suggest any other target group?

Since most of the participants worked in offices they will recommend the 'Being Digital' activity to their office colleagues, with colleagues in other course units and will promote it with Facebook friends.

Did you find any difficulty while doing this activity?

Participants did not mention any difficulties when using activity not even when asked to consider different aspects: clarity of content, structuring of activities, connectivity, use of different digital devices.

Any suggestions for improving this activity?

Participants did not mention suggestions regarding Conceptual, Structural and Navigational design.

Their suggestions were more about how to disseminate and promote this activity on-line. They proposed that this activity should be made available on-line especially through a dedicated website and definitely through a dedicated Facebook page. All participants should 'Like' the page and promote it with their friends.

Showcase 3: The ePortfolio template

The Learning Scenario using the ePortfolio Template from Google Sites was carried out with two student groups following the Bachelors in Education course. The activity was integrated within the unit 'Designing Technology-Enhanced Learning'. The evaluation of the OER was integrated in the last session of the unit dedicated to the evaluation of this course unit done through a group discussion guided by questions from the tutor.

Questions:

Conceptual design – Does the OER covers the topic / theme thoroughly?

The OER (ePortfolio Template) is an excellent tool to structure learning activities intended to promote self-directed learning. It gives the possibility of integrating activity content with user's reflection, the two key elements of an ePortfolio.

Are the learning outcomes clear and comprehensive with regards to the theme?

With regards to the learning scenario using this OER the activity is based on clear objectives – that of different modes of self-directed learning. Using learning design principles

discussed in class, by the end of the activity each student should develop learning activities in separate pages of the ePortfolio. Thus four activities should be designed in four separate pages dedicated for the following modes of learning: Instruction, Exploration, Designing and Collaboration. Also the design of these activities is further guided by the template provided, so that by the end students will be more familiar with the learning design process.

Structural design: Is the theme developed in a logical and structured manner?

To ensure a logical and user friendly configuration of the learning activity, the design of the scenario involved site-level, page-level and activity-level organization. At site-level, one page was dedicated for Reflection about the ePortfolio methodology and one page for each of the four modes of learning. The learning activity was structured according to the 'Web-page' template having the top section dedicated for the organization of content, a middle section for resource upload and the bottom part for comments and reflection. The content section was further organized through a pedagogical template that provided fields for describing the type of learning involved (facts, concepts, principles, rules, problem solving, psychomotor skills, attitudes or cognitive strategies), learning outcomes, pre-requisites, introduction to the learning event, steps in the learning event, practice, assessment, and further activities.

Did you have problems accessing any part of the activity or navigating through the OER?

No navigational problems or difficulties in accessing or returning back to any part of the activity were reported. The OER provides excellent navigational possibilities.

Use of OER – Will you use this OER in your professional practice?

B.Ed (Hons) students seriously considered using the ePortfolio template during their teaching practice to organize teaching and learning activities as an alternative to or complementing the virtual learning environment they will have in class. This template provides a more structured and organized way for promoting self-directed learning.

Do you recommend doing this activity about this OER (Scenario) with your colleagues?

Students considered promoting this OER with their course colleagues not enrolled for the unit 'Designing TEL'.

Do you suggest any other target group?

Students also considered promoting this OER with practicing teachers they know and with teachers they come across in schools where they will be assigned for their teaching practice.

Did you find any difficulty while doing this activity?

Participants did not mention any difficulties when using the activity and the OER not even when asked to consider clarity of content, structuring of activities, connectivity, accessing the OER through different digital devices.

Any suggestions for improving this activity?

Students made the following suggestions to improve and elaborate the learning activity with this OER:

- Include another page dedicated to 'Learning by Playing'
- Elaborate the page 'Learning by Exploration' to include sub-pages dedicated to Inquiry-based Learning, Digital Simulation and Game-based Learning, and Mobile Learning.
- Link this scenario to separate learning activities about Learning Design, the ePortfolio methodology, Different modes of assessment.

Conclusion

The development and evaluation of pedagogical scenarios using OERs on a connectivist approach provide insight into the best approach that should be adopted. From the experience gained through the development and implementation of these three scenarios, It is recommended that OERs are selected and used following learning design principles. It is not advisable to develop pedagogical scenarios by considering solely surface features of an OER such as audio and visual characteristics or media mix. Pedagogy should drive use of OERs and not OERs determine the pedagogy. OERs should be used after careful analysis of the type of learning they mediate and the range of learning outcomes they facilitate. Thus a learning design approach that considers the Conceptual, Structural, Interactional design provided by the OER should be adopted when using OERs to develop pedagogical scenarios. This same approach should then be used to evaluate the pedagogical scenario developed on basis of the learning mediated by the OER.

ANNEX: Insights into learning scenarios and showcases (Romania)

Learning Scenarios 1: Competences for XXI century using Project Based Learning

<table>
<tr><td>Title of the learning scenario
Competences for XXI century using Project Based Learning</td><td>Target group:
Teachers from Vocational school</td><td>Time frame of the learning scenario:
90 minutes</td></tr>
<tr><td>Short description of the learning scenario</td><td>The topic helps teachers to create assessments for the competencies of the XXI century and provides strategies for integrating evaluation into the process of teaching and learning of the students. The learning scenario will show how to teach the first module of this course</td><td>Outcomes of the learning scenarios:
knowledge of different types of the projects
stages in projects development
integration of assessment during the development of projects to ensure student success
classroom management using projects based learning
planning the training to support learning</td></tr>
<tr><td rowspan="5">Short description of the OER</td><td rowspan="5">The OER consist in following activites like:
knowledge about project based learning
differences between traditional learning and project based learning
the advantages of project based learning</td><td>URL of the OER:
http://iteach.ro/intel/elements1/content.htm</td></tr>
<tr><td>Author of the OER:</td></tr>
<tr><td>Creation date:</td></tr>
<tr><td>Time frame of the OER:
50 minutes</td></tr>
<tr><td>Other information:</td></tr>
<tr><td colspan="2">Structure of the learning scenario with OER</td><td>Methods, use of media and didactical design</td></tr>
</table>

Introduction	The OER present the diagram of the action plan for the first module. In this step the students must fill in the table, answering to the questions from the worksheet 1	Brainstorming about project based learning Worksheet 1(K/W/L/H)
Main Part	Discussion about the teaching process. The differences between traditional teaching and PBL. Knowing more about the own teaching style. Presentation of a lesson scenario which uses projects methods. Roles in the project: what are teacher/students doing. Can the roles be changed? Knowing more about the advantages of PBL. Presentation of the study case in order to understand which typ of project is useful for different kind of learners	Using the flipchart the teacher will collect the answers on a piece of paper Working in pairs, students will find the differences between traditional teaching and PBL Worksheet 2 Short video presentation: Project Based Learning: Explained https://www.youtube.com/watch?v=LMCZvGesRz8 From the Internet, students will find their teaching style, using Teaching Style Survey (Grasha-Riechmann) http://longleaf.net/teachingstyle.html The teacher present the regular stept of project development and finally ask the students to identify the roles and if/how can the roles exchanged? Worksheet 4 Working in pair, the students find the advantages of PBL Worksheet 5 Working in group for 10` students solve the case, than they present the case in front of the classroom Worksheet 6
Last Part	At the end of the lesson is time for feed-back. Students must find the answer to the following questions: How can I used the PBL in my teaching activity? What was the most important aspect of the lesson? How can I involve the students in project evaluation?	Working in pairs/teams, students will find the answers to the questions. They will present the answers in front of the classroom
Reflection of the learners	What objectives for project-based learning do you propose for the subject you taught Write down three goals that proposed to address PBL	

Worksheet 1

In the brainstorming session, answer to the following questions:

1. What do you know about the project based learning?
2. What do you want to know more about PBL?
3. What are your questions regarding PBL ?

Know	Wonder	Learned	**How**
…	…	…	…

Worksheet 2

Differences between traditional and based learning projects

Traditional teaching	**Project based teaching**
Teacher centred	Student centred
…	
…	
…	

Worksheet 3

Teaching style Survey

http://longleaf.net/teachingstyle.html

(Grasha-Riechmann)

Respond to each of the items in terms of how you teach.

If you teach some courses differently than others, respond in terms only of one specific course. Fill out another survey for the course(s) that you teach in a different style.

Try to answer as honestly and as objectively as you can.

Resist the temptation to respond as you believe you should or ought to think or behave, or in terms of what you believe is the expected or proper thing to do.

Worksheet 4

Describe the roles encountered in the project and show how they could be changed

1. The teacher shows students the project scenario. Students come with ideas and think of different questions in connection with the subject.
2. Discussion about evaluation of the projects. The teacher read rating scale with students and shows them their demands.
3. Experiment – in front of the students, teacher shows the experiment.
4. Students, in teams seek information from various sources to solve project. The teacher helps students during information activity.
5. The teacher invites a specialist in lesson to present important information for solving project.
6. Students make investigations and conduct tests to solve project.

Worksheet 5

The advantages of learning through the projects:

(possible responses)

1. Increase the motivation of learning.

2. Better school results.

3. Higher order thinking Involvement.

4. More collaboration.

5. Increasing autonomy.

Worksheet 6

Case Study

Maria is a motivated student who likes to work independently and is accustomed to traditional teaching. Do well to tests and answer correctly to the teacher questions. She likes reading the books, to complete worksheets and to solve the tests from the end of chapters. She does not like open learning and she quickly lose the interest in studying whether a subject is too long. What kind of project would help the most on Maria?

1. The teacher conducts a two-week project about plants. Students studying plants, than they choose one to study, collect data, formulate questions and then shows the project in front of the whole class.

2. The biology teacher asks Mary to propose a question related plants that seek answers. Asks Mary to work with a group of students weakest and to guide them in finding the answers.

3. The teacher of biology with chemistry propose a joint project about plants during the month. The project involves visits to various organizations and students work in teams daily.

Question:

What kind of project would help her the most on Maria?

Why and argument

Learning Scenarios 2: Personality

Title of the learning scenario Personality	Target group: Students from 10th class	Time frame of the learning scenario: 90 minutes
Short description of the learning scenario	Elevii vor invata despre personalitate, despre imaginea de sine si consecintele acesteia. De asemenea, elevii vor afla cum se manifesta si ce consecinte are o imagine de sine negativa. Pe baza datelor anterioare elevii vor constientiza cum actioneaza oamenii cu stima de sine scazuta si ridicata	Outcomes of the learning scenarios: knowledge about the terms: personality, self-respect, esteem, -to identify the defining elements of their own personality development of the self-awareness capacity development of a positive attitude towards self
Short description of the OER	The OER consist in following activites like: Worksheet about self-image To fill in the worksheet To solve the exercise about self image To know how to rebuild the self image	URL of the OER: http://www.didactic.ro/materiale-didactice/stima-de-sine-increderea-in-sine-acceptarea-de-sine-2
		Author of the OER: Prof. psih. Maricica Botescu
		Creation date: 5 July 2012
		Time frame of the OER: 50 minutes
		Other information:
Structure of the learning scenario with OER		Methods, use of media and didactical design
Introduction	The OER present in the first step the question: How do I see myself? Fill in the worksheet 1	The conversation, the exposure Individually, students fill in the worksheet 1

Main Part	The students must think of some features which briefly describes them, in each of the 4 categories from the worksheets 2 This exercise about the image of himself is designed to helps students to develop an image of himself correct and accurate, with a clear view on strengths and an awareness of the areas which students want to fill in or to have them developed The next example is a practice of the image of himself completed by a person with low self-esteem, and then reattached, as a result of a training to be carried out for he recognized and evoke certain forces forgotten or overlooked. Worksheet 3	Worksheet 2 Reflection about personality, social relationship, physical aspect, day-by-day routine Students must fill in the worksheet as precisely as they can. At the end of the activity some of the students present their characteristics of personality in front of the other students. It is exposed in front of the students the personality of an individual with a low self-esteem and they are required to find ways to increase it like in worksheet 3. Working in pairs students find proposal to increase the self-esteem and then note all this proposals on a sheet of flipchart.
Last Part	The last part of the lesson is dedicated for the conclusions regarding the consequences of the positive and negative self image and how to improve it. Lesson evaluation worksheet 4	Working in pairs/teams, students will find the consequences of the positive/negative self image. They will present the answers in front of the classroom Each student will stick a post-it in the form of Leaf : on the branches if he liked the lesson or Next to the root of the tree if he didn`t liked the lesson.
Reflection of the learners	- Why is self-esteem important for people? - Which are the ways to improve it? - Which are the consequences of the negative self image? - How can I increase my self image and self-esteem? .	

Worksheet 1

Think about your person and write below a series of attributes which best describe you, as example: kindly… insensitive ... organized ... chaff

-

-

-

Worksheet 2

Reflection about personality, social relationship, physical aspect, day-by-day routine

Exercise about self			
Personality			
Social Relationship			
Physical Aspect			
Day-by-day Routine			

Worksheet 3

	Example of self image when self – esteem is lowered	The refurbishment of the image of himself	Example of the recast image of himself
Personality	I`m friendly	Sustain with confidence the forces which you recognize already! They are real and are valid.	I`m friendly, warm, careful about compared to the others
	I need the other approvel		I shall take into account the opinions of the others, but I must believe in my abilities
	I`m anxious in new situations		I`m relaxed in familiar situations, as well as with the people which I know them.
	I tend to load me with the other`s problems		I`m a support for the others, but I must establishes the limits.
Relationships with others	I feel uncomfortable in large groups.	Look at a weak point from the perspective of the opposite side. Recognizes the hidden or overlooked talents	I feel comfortable in small groups
	I`m helpful		I offer my mates help, I`m a good neighbor.
	I avoid conflicts		I am a good negotiator. I must learn to talk about conflicts in an asertiv way.
	avoid conflicts		I must learn to be asertiv and to express my feelings .
Day-by-day routine	I`m conscientious	Notice specific circumstances in which a weakness is expected. There is a chance that they will not occur in any situation, all the time	
	I`m restless		I`m worry when someone close to me is ill.
	I`m meaningless		I am not a leader, but I have a valuable contribution
	I`m disorganized under stress		I`m organized, when I have breaks of stress.
Physical aspect	I have brown hair and brown eyes se	Waive the trial. Limited painful words such as ugly, stupid, lazily, useless. These words simply do not belong to the image of himself.	I have brown hair and eyes
	I`m too short		I have 1,52 m.
	I have an ugly and crooked nose		I have a distinguished nose.
	I must become loo		I have 72 kg

Example of self image when self-esteem is lowered

Worksheet 4

Each student will stick a post-it in the form of Leaf : on the branches if he liked the lesson or
Next to the root of the tree if he didn`t liked the lesson.

Learning Scenarios 3: Web 2.0

Title of the learning scenario Web 2.0	Target group: Students of the 12th grade	Time frame of the learning scenario: 90 minutes
Short description of the learning scenario	The students will learn new things about Internet, comparing different media sources (newspaper, social media, messenger, blog, online games, and multimedia site), important explanation about hacking, phishing, spam, grooming etc., a figure representing a lot of Web 2.0 tools and applications.	Outcomes of the learning scenarios: the guide of use the Internet under safe conditions - knowledge about social networking video game ratings

<table>
<tr><td rowspan="5">Short description of the OER</td><td rowspan="5">The teacher will use the first game entitled “The drawing: Yes/No”. Children are divided into 4 – 6 groups (depending on the total number of pupils in the class). Each group must find examples of the advantages and risks which can be in connection with internet uses.
Next game is The RIDDLE. After the finished the YES/NO drawing, each group will received 2 words (a benefit and a risk associated with the use of the internet). Each group will have to guess the words of the other riddles.</td><td>URL of the OER:
http://www.sigur.info/docs/jocuri-si-activitati-de-utilizat-la-orele-de-clasa.pdf</td></tr>
<tr><td>Author of the OER:
National Coordinator “Save the Children” Organization</td></tr>
<tr><td>Creation date:
1.09.2009</td></tr>
<tr><td>Time frame of the OER:
50 minutes</td></tr>
<tr><td>Other information:</td></tr>
<tr><td colspan="2">Structure of the learning scenario with OER</td><td>Methods, use of media and didactical design</td></tr>
<tr><td>Introduction</td><td>The game with its conditions and restrictions is presented.</td><td>First, the students are divided into 4-6 groups and each group receives one sheet of flipchart with work instructions.</td></tr>
</table>

Main Part	Each group will have to divide by a line or in some other way invented by them (leaving them the freedom to explore, depending on how they feel) the sheet of the flipchart into halves. They are asked than to write down 10 benefits of the use of the internet in one of the halves and 10 risks in the other one and to make then a registered representative for the content of each halves. After 20 minutes, the children are asked to submit to the groups the benefits and risks discovered, defining each concept (they can even describe a situation in which they have heard that the concept has been used). For the next game, the groups do not know the words received by the other group. Each group will come up with two riddles and they have to be developed with answers in form of communicated words. On the blackboard/sheet of the flipchart 30 words should be entered (15 benefits and risks 15). Among these words, there will be and the 4 x 2 or 6 x 2 words from each data group.	Using different ways of arrangement of the classroom, the students will work in groups and they will answer the questions from the sheet of the flipchart.
Last Part	Each group will nominate a leader who will present their answers in front of the classroom. Each presentation of each group will be ended in a common debate regarding the best answers. The students will decide who came up the best answers and teacher will reward this group. For the next game, the group who will guess the biggest number of words will be the winner.	Discussions, conversations Group activity Group presentation
Reflection of the learners	Why is so important to take care on the internet access? What are the main risks of using internet? How confident should someone be when opening different addresses?	

ANNEX: Insights into learning scenarios and showcases (UK)

Learning scenario 1: Business Studies and/or TEFL English teacher taking Marketing module

<table>
<tr><td>Title of the learning scenario
Business Studies and/or TEFL English teacher taking Marketing module</td><td colspan="2">Target group
VET Business English skills
Commercial training students</td><td>Time frame of the learning scenario:
45minutes –
90 minutes</td></tr>
<tr><td>Short description of the learning scenario</td><td colspan="3">In this learning scenario the Business English teacher will introduce the marketing module as part of a series of lessons. In total the entire module is to be covered over 4 lessons (or more depending upon the ability of their learners) covering the 4 main aspects of marketing in order to build the learner's knowledge about general business, business terms and leading up to the development of a business plan. Questions focused on:
What is marketing? Why is it important? Who is responsible? Should it be managed by senior managers or should the decision be left to junior staff? What is marketing mix? How do you manage this marketing mix? What strategies should you employ?</td></tr>
<tr><td rowspan="4">Short description of the OER</td><td colspan="2" rowspan="4">The OER about "marketing mix the basics of 4Ps" is a light-hearted song uploaded on YouTube by and for GCSE students in UK. It describes in a step-by- step light-hearted slide show with the song in the background what the 4Ps are and how they are important for any business. The importance of USP (unique selling point) is also explained and takes the learners through the 4Ps in a repeated cycle to reinforce the idea about 4Ps and their importance in the growth of any business success story.</td><td>URL of the OER:
https://www.youtube.com/watch?v=zFENz_nnrq8</td></tr>
<tr><td>Author of the OER:
ShearerToon on You Tube</td></tr>
<tr><td>Creation date:
31.10.2010</td></tr>
<tr><td>Other information:
Aimed at GCSE level students aged 14-16 but can be used in EAL or TEFL (English as an Additional Language or Teaching English as a Foreign Language) classes</td></tr>
<tr><td colspan="3">Structure of the learning scenario with OER</td><td>Methods, use of media and didactical design</td></tr>
</table>

Introduction	The VET sector learners will be introduced to marketing activities in companies. Students will be invited to discuss the main aspects of marketing that they may have come across in their daily activities either as consumers or observers via TV channels.	Typical lecture format via Q&A and five minutes group discussion
Main Part	Teacher shows the online video (OER) to introduce the students to the topic of 4Ps. After the 5 minutes video, the teacher will recap the idea and concept through a short Q&A session. To reinforce the ideas there is then a more formal video on 4Ps which lasts about 20 minutes that is detailed in explanation covering all the 4Ps such as: Perception, packaging, warranty of the product Promotion related to education, information and persuasion Price indicating product quality and so forth. This is a comprehensive and in-depth discussion on 4Ps. https://www.youtube.com/watch?v=dV1L-bZg0if4	Online Video, classical lecture format and taking notes and build on knowledge via Q&A. https://www.youtube.com/watch?v=d-V1LbZg0if4
Last Part	After the online videos on marketing Mix and the 4Ps the learners are asked to form groups for a hands-on learning experience. They are asked to choose a particular product form a list of items that the teacher has pre-prepared and shares with the learners via overhead projector. Having chosen their products, the groups are asked to present the complete marketing mix for their chosen organisation/ product. Interdisciplinary opportunities: In TEFL / EAL classes the focus would be on the correct use of language. A typical IT class would allow learners to create a marketing strategy that could be put online.	Create power point presentations, group work, final part of the lesson lasting about 15 minutes with a plenary of Q&A to reinforce learning. Homework could be an in-depth PPT which could then be used for subsequent lessons to complete the modules which lead to eventual development of the business plan.

Reflection of the learners	Short feedback from the students about the usefulness, quality (etc.) of the video What could be improved? How useful was the OER? and so forth.

Learning scenario 2: Citizenship and/or TEFL English teacher taking Globalisation and other societal topics

Title of the learning scenario Citizenship and/or TEFL English teacher taking Globalisation and other societal topics	Target group TEFL English skills GCSE preparation for students of Citizenship and PSHE subjects	Time frame of the learning scenario: 45minutes – 90 minutes
Short description of the learning scenario	In this learning scenario the teacher will introduce the concept of values as part of a series of lessons. In total the entire module is to be covered over 4 lessons (or more depending upon the ability of their learners) covering the 4 main aspects of self, family, country and global society in order to build the learner's knowledge about general issues related to Values and concept of values. Questions focused on: What are Values? Why is are they important? Who is responsible? Should it be managed by teachers or should the decision be left to oneself and family? What is marketing mix? How do you manage this marketing mix? What strategies should you employ?	

Short description of the OER	The OER about "Citizenship and Character" is a paper based activity and instruction sheet to develop debates and discussions about Values Education for GCSE students in UK. It describes in a step-by- step narrative on values in society and one's role in society.	URL of the OER: http://www.learningforlife.org.uk/wplife/wp-content/uploads/2010/06/Citizenship_and_Character.pdf
		Author of the OER: Character Education
		Creation date: 2008
		Other information: Aimed at GCSE level students aged 14-16 but can be used in EAL or TEFL (English as an Additional Language or Teaching English as a Foreign Language) classes
Structure of the learning scenario with OER		Methods, use of media and didactical design
Introduction	The GCSE and TEFL sector learners will be introduced to values in society and issues related to Character Education. Students will be invited to discuss the main aspects of character that they may have come across in their daily activities either as members of their families, schools and wider community.	Typical lecture format via Q&A and five minutes group discussion

Main Part	Teacher shares the good character / bad character prompt cards (OER pack) to introduce the students to the topic of Values and Character and Active Citizenship. After the 5 minutes chat, the teacher will recap the idea and concept through a short Q&A session. To reinforce the ideas there is then a more formal Q&A which lasts about 20 minutes that is detailed in explanation covering all issues related to character and values: Is it easy to decide who is good and bad citizen? How could you describe a good citizen in five words? What are the common characteristics of people they put in the good citizen pile and the bad citizen pile? and so forth. This is a comprehensive and in-depth discussion.	Online Video, classical lecture format and taking notes and build on knowledge via Q&A. http://www.learningforlife.org.uk/wplife/wp-content/uploads/2010/06/Citizenship_and_Character.pdf
Last Part	After the discussions the learners are asked to read and reflect on the "good samaritan" parable (OER pack). Interdisciplinary opportunities: In TEFL / EAL classes the focus would be on the correct use of language. A typical IT class would allow learners to create a storyboard that could be put online.	Create power point presentations, group work, final part of the lesson lasting about 15 minutes with a plenary of Q&A to reinforce learning. Homework could be an in-depth PPT which could then be used for subsequent lessons to complete the modules which lead to eventual development of the character education plan.
Reflection of the learners	Short feedback from the students about the usefulness, quality (etc.) of the video What could be improved? How useful was the OER? and so forth.	

Learning scenario 3: Geography and/or TEFL English teacher taking Globalisation and other societal topics such as climate change

<table>
<tr><td>Title of the learning scenario
Geography and/or TEFL English teacher taking Globalisation and other societal topics such as climate change</td><td>Target group
TEFL English skills
GCSE preparation for students of Goegraphy, Citizenship and PSHE subjects</td><td>Time frame of the learning scenario:
45minutes –
90 minutes</td></tr>
<tr><td>Short description of the learning scenario</td><td colspan="2">In this learning scenario the teacher will introduce the concept of climate change as part of a series of lessons. In total the entire module is to be covered over 8 lessons (or more depending upon the ability of their learners) covering the main aspects of sustainable tourism and climate change. Questions focused on:
What are Values? Why is are they important? Who is responsible? Should it be managed by teachers or should the decision be left to oneself and family?
What is sustainable tourism? How do you manage this? What strategies should you employ?</td></tr>
<tr><td rowspan="4">Short description of the OER</td><td rowspan="4">The OER about “Sustainable Tourism” is an internet based resource to teach sustainable tourism and climate change concepts. Licensed under Creative Commons the resource has been accessed over 10,000 times!</td><td>URL of the OER:
http://wikieducator.org/Sustainable_Tourism/Resources/Lesson_Plans_1-8</td></tr>
<tr><td>Author of the OER:
Wikieducator</td></tr>
<tr><td>Creation date:
04.04.2016</td></tr>
<tr><td>Other information:
Aimed at GCSE level students aged 14-16 but can be used in EAL or TEFL (English as an Additional Language or Teaching English as a Foreign Language) classes</td></tr>
</table>

Structure of the learning scenario with OER		Methods, use of media and didactical design
Introduction	The GCSE and TEFL sector learners will be introduced to values in society and issues related to Climate Change. Students will be invited to discuss the main aspects of climate change that they may have come across in their daily activities either as members of their families, or wider community. https://www.youtube.com/watch?v=r8XmsSQwQQ8#t=41	Typical lecture format via Q&A and five minutes group discussion
Main Part	Teacher shares the simple video (OER pack) to introduce the students to the topic of Sustainability. After the 5 minutes chat, the teacher will recap the idea and concept through a short Q&A session. To reinforce the ideas there is then a more formal Q&A which lasts about 20 minutes that is detailed in explanation covering all issues related to climate change and sustainability: What is sustainability? What is carbon trading or carbon foot print? What are renewable resources? and so forth. This is a comprehensive and in-depth discussion. The class also watch the video about Daintree Rain Forest - https://www.youtube.com/watch?v=llZjdA12CQg	Online Video, classical lecture format and taking notes and build on knowledge via Q&A. http://wikieducator.org/Sustainable_Tourism/Resources/Lesson_Plans_1-8

Last Part	After the discussions the learners are asked to read and reflect on the "good sustainable tourism" using the expectations concept (OER pack). Interdisciplinary opportunities: In TEFL / EAL classes the focus would be on the correct use of language. A typical IT class would allow learners to create a storyboard that could be put online.	Create power point presentations, group work, final part of the lesson lasting about 15 minutes with a plenary of Q&A to reinforce learning. Homework could be an in-depth PPT which could then be used for subsequent lessons to complete the modules which lead to eventual development of the sustainable tourism policy.
Reflection of the learners	Short feedback from the students about the usefulness, quality (etc.) of the video What could be improved? How useful was the OER? and so forth.	

Open educational resources (OERs) are becoming more and more important. They are in focus of the European Union as well as of several member states. However, instead of just collecting OERs and sharing them on online platforms it is crucial to ensure a high quality of OERs. The EU-StORe consortium designed European quality criteria for OERs and provides a database for rating OERs according to these criteria.
This book presents research results concerning OERs in Europe as well as a step by step approach for creating high quality OERs. It also covers insights into learning scenarios which contain OERs and combine OERs with classical learning and teaching materials.

The EU-StORe project was funded by the ERASMUS+ programme of the EU. Based on the ideas of Prof. Dr. Marc Beutner (University Paderborn, Germany) an international consortium developed a European approach to OERs which takes the recommendations of Pawlowski into account and created a set of quality criteria and teacher guidelines.

Funded by the
Erasmus+ Programme
of the European Union

ISBN 978-3-86883-478-9

9 783868 834789 >

Ingenious Knowledge

published by Ingenious Knowledge
www.ingeniousknowledge.com