EU-StORe

IMPLEMENTATION STRATEGIES AND GUIDELINES FOR OPEN LEARNING

Creating European standards for open education and open learning resources
Intellectual Output

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IMPLEMENTATION STRATEGIES AND GUIDELINES

FOR OER and OPEN LEARNING

Guideline for teachers who want to create high quality

open learning resources / OER

Introduction:

After more than 13 years, which passed since the first OER has been developed, there are a variety of models which have been promoted and implemented. The "Openness" idea behind these resources means that knowledge must be disseminated and shared freely all over the world, via the Internet, for the benefit of society. The "Openness" concept includes two aspects, which are free availability and as much as possible, few possible restrictions on the use of the resource, regarding technical, legal or costs aspects. According to Li Yuan, Sheila MacNeill and Wilbert Kraan (2008), "Openness exists in different 2 forms and domains and has different meanings in different contexts. As example in the social domain it is fundamentally motivated by the expected social benefits and by ethical considerations related to freedom to use, contribute and share. Openness in the technical domain is characterized by access to source code and/or access to interoperability standards or the standards process."

Learners and users could be the target users, but at the same time, content developers and course providers, teachers and/or wholesalers could be the target groups as well. It`s important for the teachers, students and  other target group looking for OER not to  have difficulties in finding these resources, but at the same time it`s important that these OER do not to have problems concerning quality and relevance. The issue of the quality of resources is fundamental for the use of OER. To say it in the words of Neil Butcher (2011) "In the OER environment, quality assurance will be assisted by the development of such repositories, which will provide at least first levels of quality assurance" (Butcher, N. 2011).

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Open Educational Resources are different from Open Learning Resources.

Open Learning is an approach which encourages learning experiences and online activities.

It helps students to remove the barriers towards learning success in an education and training system focusing on their specific needs.

According to Saide[1] (2011), open learning needs is based on some key principles :

- learning opportunities should happen in a lifelong process and should encompass both education and training;

- the learning process should be centred on the learners and build on their experience;

- the learning process has to encourage independent and critical thinking;

- learning provisions should be flexible so that learners can increasingly choose, where, when, what and how they learn, as well as the pace at which they will learn;

- prior learning, prior experience and demonstrated competencies should be recognized so that learners are not unnecessarily barred from educational opportunities by a lack of appropriate qualifications;

- learners should be able to accumulate credits from different learning contexts;

- providers should create the conditions for a fair chance of learner success.

All of these arguments were reasons to develop this guideline for the teachers and other specialists who want to create high quality OER and OLR.

In traditional instructional design, the training process begins with answering to the information from figure 1.

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[1] South African Institute for Distance education

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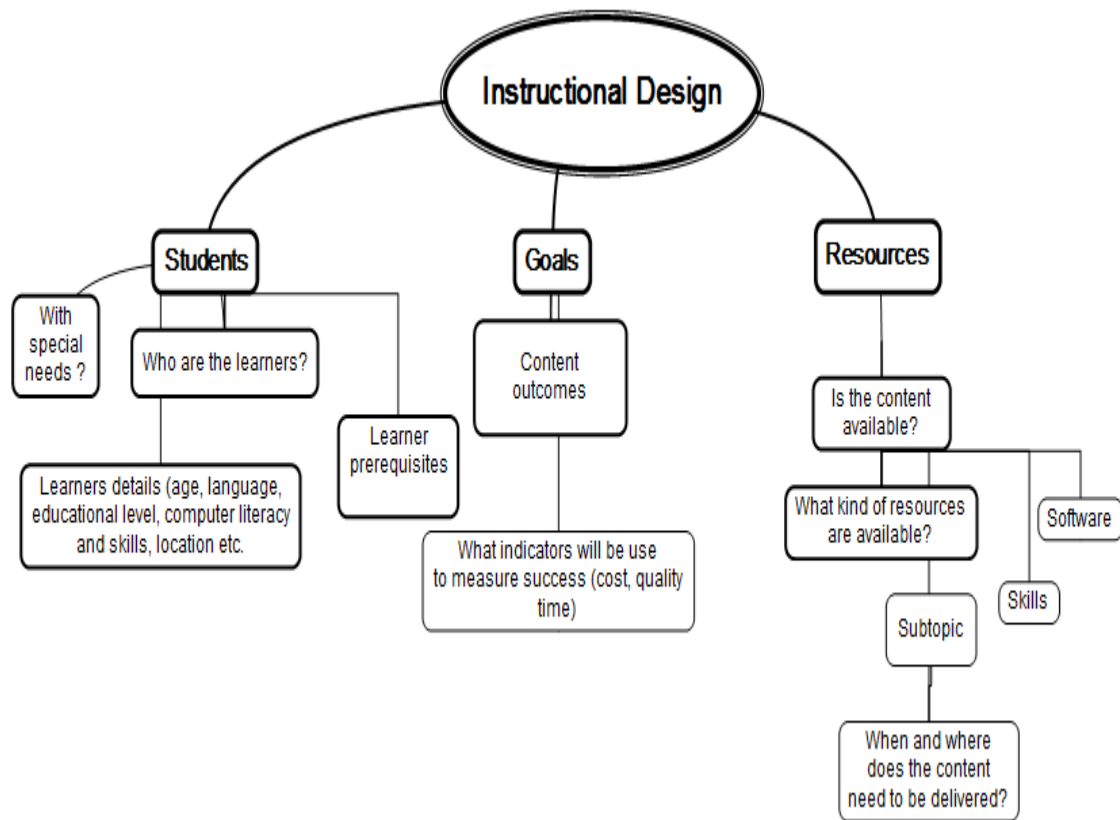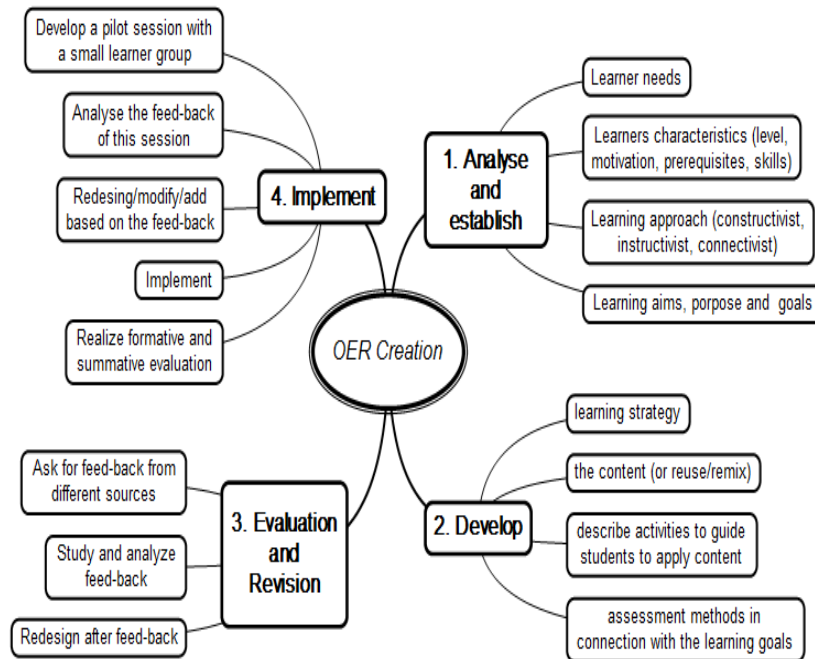*O1-A6 Implementation strategies and guidelines for open learning –P1, LBU Sibiu- RO*

Figure 1. Traditional Instructional Design

Starting with the answers to these questions, we can initiate the development of the OER (figure 2).

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Learners/users needs

The first question is about who will use this OER, which is the learner profile. So, here we can suggest some questions like:

- What is the level of knowledge of the users?
- What prerequisites do they need for using the OER?
- What language do they have to use?
- What kind of special needs do they have?
- How important is the OER for their success (the reason for OER)?

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Learning aims and   objectives

The first idea in creating the OER is to have a good connection between the learning need – and the resource. That means to have a very clear image about the aims and objectives/ outcomes of the OER.

The aim is the general statement of what the unit/content/OER etc. will achieve. It is a broad statement of desired outcomes and is focused on long-term outcomes.

Learning objectives state what students will know, will understand, and will be able to do after they will complete the content. Learning outcomes for each course must be summarized in a clearly written, uncomplicated statement at the beginning of the content presentation.

Learning objectives should specify the activities, products, or performances to be measured and evaluated and at the same time, the criteria they must meet for success.

Learning objectives should be "SMART": **S**pecific, **M**easurable/Observable, **A**ttainable for a target audience within a scheduled time and specified conditions, **R**elevant and results-oriented, **T**argeted at the learner and to the desired level of learning.

In order to create SMART objectives, usually there is employed the sentence "After finishing this content/unit/ individual session, all the students must be able to….". What the learner should be able to do must be specified with an observable action word. In this situation, there can be used Fink's taxonomy and Bloom`s taxonomy, considering as dimensions:

- foundational knowledge ;
- application ;
- integration;
- human dimension;
- caring;
- learning how to learn.

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Similar to each of all this taxonomy there exist specific action verbs and objects (see[2] Fink, Creating Significant Learning Experiences, 2003). Bloom`s taxonomy, for dimensions in the Fink`s

Content Description

This is a specific part, which describes the subject content. This area involves a high-level analysis of the current process used to select content for courses, presentations, programs, and other. The content could be a lesson, a course, a tutorial, demo, game, practice, simulation, quiz, test etc.

There are different ways to organize a course content in order to accomplish the set of objectives. As an example, a course could be structured: chronologically, from concrete to abstract (or vice versa), from theory to application (or vice versa), around a set of questions, around a set of practical problems or case studies etc. It doesn't matter how we choose to organize the course, the goal should be to create a structure that supports the learning objectives we have proposed.

According to Shulman and Colbert[3], those who are involved in the development, design and facilitation of the learning process need to acquire knowledge about:

- content and

- curriculum development.

OER creators must identify the ways in which each unique part of knowledge should be structured so that learners can more readily understand it. Especially important, according to Shulman and Colbert, "is content knowledge that deals with the learning designs, which includes understanding the most useful forms of representing and communicating content and knowing how students best learn the specific concepts and topics of a subject".

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[2] http://ccoe.rbhs.rutgers.edu/forms/EffectiveUseofLearningObjectives.pdf

[3] Shulman, J. H., & Colbert, J. A. (1988). The intern teacher casebook. Far West Laboratory for Educational Research and Development.

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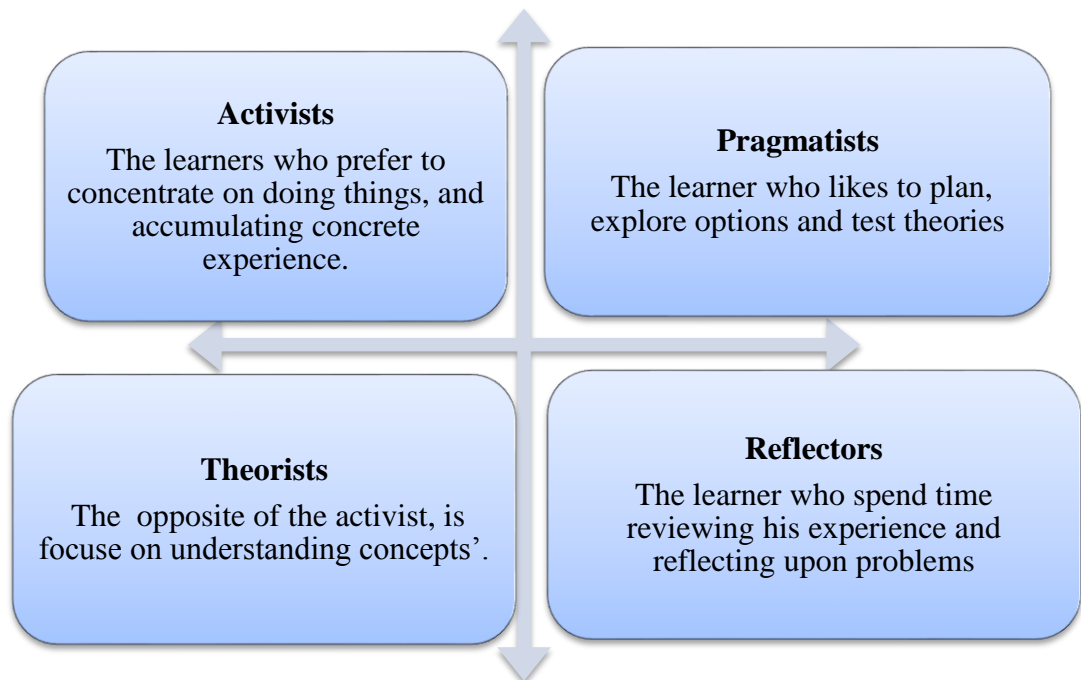The content could be as a text, a video, animation or multiple media.

While developing the content, some rules must be observed:

- the content must have the possibility to be studied alone, as a single unit;

- the content provides comprehensive information so effectively that the learners should be able to understand the subject matter;

- the content provides materials that are comprehensive and easy to understand and use;

- the content must avoid superfluous material and distractions;

- must be supplemental course information that outlines course objectives, concepts, and ideas (you can use links to different materials). It is possible to include a "virtual library" accessible through the World Wide Web;

- if the content is dedicated for learners with special needs, it must be adequate for this category and it must be specified.

Time

It is necessary to inform the students about the time needed for learning and for accomplishing the tasks.

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1. Learning styles and learning methods

Activists

The learners who prefer to concentrate on doing things, and accumulating concrete experience.

Pragmatists

The learner who likes to plan, explore options and test theories

Theorists

The opposite of the activist, is focus on understanding concepts'.

Reflectors

The learner who spend time reviewing his experience and reflecting upon problems

As learning methods, there could be:

- self-study online

- case-studies

- e-assessment

- consulting an online instruction manual

- online simulation etc.

Regarding the teaching and learning process, Paul Kawaki[4] (2014) adds some recommendations as follows:

- give the learners a study guide about how to use your OER, with an advanced organizer, and navigational aids;

- use a learner-centered approach;

- clearly state the reason and purpose of the OER, its relevance and importance;

- anticipate the current and future needs of the student;

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[4] Kawaki, P. (2014) Quality Assurance Guidelines for Open Educational Resources: TIPS Framework. Version 2.0. Commonwealth Educational Media Centre for Asia

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- support learner autonomy, independence, learner resilience and self-reliance;

- don't use difficult or complex language. The language must be adapted to the level of knowledge of the learner;

- include learning activities, which recycle new information and foster the skills of learning to learn;

- include a variety of self-assessments such as multiple-choice, concept questions, and comprehension tests;

- check the readability to ensure it is appropriate to age/level;

- include learning activities, which recycle new information and foster the skills of learning to learn;

- stimulate the intrinsic motivation to learn;

- include a variety of self-assessments such as multiple-choice, concept questions, and comprehension tests;

- offer learning support;

- the content should be relevant and appropriate to purpose;

- avoid superfluous material and distractions;

- add links to other materials to enrich your content if it`s needed;

- the content should support equality and equity, promoting social harmony, and be socially inclusive, law abiding and nondiscriminatory;

Assessment

Assessment techniques are used to determine a level of achievement and may include: open or closed answers, objective/short response items, extended response items, essays, practical application items, responses to stimulus materials and assignments. Students will be assessed in the following different criteria.

Usually, we are talking about two types of assessment: formative and summative. Formative assessments focus on *monitoring student learning* to provide ongoing feedback that can be used by teachers to improve their teaching and by students to improve their learning.

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![Erasmus+ logo]

Formative assessments have low or no point value and the obtained results could be part of summative assessments. Examples of formative assessments include asking students to draw a concept map of a topic/concept or to submit one or two sentences identifying the main point of a lecture. Sometimes the formative assessment could include asking the students to turn in a research proposal for early feedback.

There is a recommendation in the content to exist a link with formative self-assessment to help cognitive mechanisms of the students.

A summative assessment goal is to *evaluate student learning* at the end of an instructional unit/content by comparing it with some standard or benchmark. Summative assessments have a high point value. Examples of summative assessments include:

- a midterm exam
- a final project
- a paper etc.

Assessment is always in connection with the learning objectives and instructional strategies. So, putting all these elements together, as a content creator we must ask ourselves:

- What do the students know at the end of this course and they didn't know from the beginning? (Establishing the learning objectives)
- What kinds of tasks will reveal whether students have achieved the learning objectives ? (which and what will be the learning outcomes - regarding the assessment)
- What kinds of activities will reinforce the learning objectives and will prepare students for assessments? (thinking at the instructional strategies)

In connection with the revised Bloom`s taxonomy, the Eberly Centre for Teaching excellence (6) proposes some examples of activities that can be used to assess different types of learning objectives

Action verbs for learning objective	Recommended assessments form
Recall, Recognize, Identify	Objective test items as example fill-in-the-blank, matching, labeling, or multiple-choice questions that

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	require students to recall or recognize terms, facts, and concepts
Interpret, Exemplify, Classify Summarize, Infer, Compare Explain	Exams, problems, class discussions, or concept maps that ask students to: • present the main ideas from a reading, films, or speeches • compare theories, events, or processes • classify or categorize cases, elements, or events using established criteria • paraphrase documents or speeches • find or identify examples or illustrations of a concept or principle
Apply, Execute, Implement	Problem sets, performances, labs, prototyping, or simulations that ask students to: • use procedures to solve or complete familiar/unfamiliar tasks • determine which procedure is the most appropriate for a given task
Analyze, Differentiate, Organize Attribute	Case studies, papers, projects, debates, or concept maps that require students to: • discriminate or select relevant and irrelevant parts • determine how elements function together • determine values, or underlying intent in presented material
Create, Generate, Plan, Produce Design	Research projects, musical compositions, performances, essays, business plans, website designs, or set designs that require students to make, build, design or generate something new

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Technology and resources

The first question is to choose those appropriate resources which help the required aims or educational goals. The availability of affordable technology is essential for teachers to find and create OER.

Technology in OER refers to both the tools – the hardware, software, networks etc. and the processes – the methods and strategies used for instruction, the design of our educational organizations, learning management systems

OER must prove a strong technological interactivity, that means to be given the possibility to create an individualized learning experience.

It is indicated to use only free software, in order to obtain an easy transmission across platforms. OER must include a date of elaboration, and date of next revision.

Resources could be articles, case studies, e-books, Theses/Dissertations, Illustrations (Cartoons, Clip art, Diagrams, Pictures, PowerPoint slides).

As Multimedia Resources there are Audio and or Video clips, Animations.

After the OER is created, it is necessary to check for functionality and software compatibility. Check if it is possible to play videos, open links and view audio scripts correctly.

Ontario's distance education & training network[5] proposes *10 Principles to select technology*, which are:

- Adding value: values may be such matters as efficiencies, effectiveness, robustness, reliability, usability, contributions to the betterment of humankind and the quality of life for all etc.

- A pedagogical focus: technology in learning must be on learning itself

- Quality: quality programs and quality infrastructures are desired

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[5]http://teachonline.ca/sites/default/files/contactNorth/files/pdf/publications/ten_guiding_principles _for_use_of_technology_in_learning.pdf

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- Sustainability: of investment of both   financial

Sustainability is a function related to returns, in terms and human returns.

- Access: access to learning for adults should be made least restrictive possible.

- Scalability: refers to networks that can be connected to other networks and thus expanded

- Sharing: if we are sharing and cooperate , we can reduce costs and improve quality

- Choice: choices of technologies, for tools and processes, can support and promote differences

- Continuous, lifelong learning: lifelong learning implies constant change

- Customization: learning delivery technologies and   course designs can be tailored to meet the needs of individual learners.

Taking into account these principles we can choose the most appropriate technology for the designed OER.

Quality

a. Content quality: provides comprehensive information so effectively that the target audience should be able to understand the subject.

It`s very important to take care of the explanations, not to be confusing or to contain errors. The content must be adequate for the learners'/users' understanding and level.

b. Quality of Assessments: skills and knowledge assessed align clearly to the content and performance expectations intended.

It is important to assess important ideas of the content, and to be careful about the written questions not to be in a way that is confusing to students, or are unclear for them.

Management

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As Keneth Learning software Fee[6] (2009) presents, Management System is a technology application for the administration, documentation, and reporting of training programs, online events, and training content and Learning Content Management system (LCMS) is a means of organizing the learning – a repository for storing, retrieving and launching courses or their components. A LCMS technology can generate reports, for example reports on the uptake of courses, or on success rates.

Ethical Aspects

According to Lou McGill (2013), making materials "open" means to make them available to the public for free, just with few restrictions. Other legal issues which need to be considered include data protection law, liability for inaccuracy or illegal content, and accessibility law.

"Open" means to be released under a Creative Commons (CC) licence. Other open licenses are possible, as well as a complete waiver of all rights, typically called release to the 'public domain'.

The creator of a content is the first copyright owner of that work. Only the copyright owner can grant permission (known in law as a 'licence') to others to use the work.

It`s very useful for the students/learners to know more about their rights and duties. For example, it is good to specify if it`s permitted to proliferate modified materials or to share and adapt the material, if a commercial use of the materials is allowed, a private or educational use of the materials and so on.

It would be good for a way to exist for the students and other teachers to give feedback and suggestions on how to improve, to the OER creator.

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