DARIAH Reference Curriculum WP5 Quality Assurance D17 Report on Quality Assurance

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#dariahTeach

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WP5 Quality Assurance

D17 Report on Quality Assurance

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Introduction

On a national as well as on a European level, quality enhancement and assurance of teaching and learning in higher education has been on the agenda for several decades: today more than ever, driven by the digital transformation of both how education, teaching and learning are offered and by new standards for skills and relevance of learning. Quality assurance of education and teaching is driven equally by quality frameworks and organizational structures as by the development of methods and curricula.[1]

Overall quality enhancement and assurance in teaching comes full circle from planning over implementation and monitoring or evaluating to enhancing quality through assessment and development, this is regardless of whether the teaching offered is on campus or delivered through e-learning.

This is also the dynamic for quality enhancement and assurance of #dariahTeach, building on systematic and continuous assessment, and on principles for iterative development of teaching as design thinking and design science.[2]

[1] Erasmus+ European Commission recommendations on teaching quality and relevance http://ec.europa.eu/education/policy/higher-education/quality-relevance_en.htm

[2] Diana Laurillard: Teaching as Design Science. Building Pedagogical Patterns for Learning and technology, Routledge 2012

- #dariahTeach is an extensible, open source and open access reference curriculum and platform for promoting multilingual DH education;
- the goal of #dariahTeach is to deliver a model for developing and delivering open source, flexible online educational materials from which other communities of practice can benefit;
- #dariahTeach builds upon existing initiatives that have taken stock of the state of the art of DH teaching at the national level to create teaching material at the European level;
- #dariahTeach modules are being developed across multiple disciplines, including both text and multimedia (images, moving images, and sound);
- #dariahTeach training materials will present content in various degrees of complexity allowing for use and reuse at different levels and in different modalities of education: from formal classroom settings, to opportunities for professional development in the form of workshops and summer schools, to nonformal individual learners wishing to improve their skills;
- as #dariahTeach intellectual outputs are developed, adhoc training activities in partner countries will take place using the curriculum developed in a variety of learning settings.

With #dariahTeach, quality enhancement and assurance of teaching and learning is understood as:

- well documented, systematically and continuously evaluated practices adhering to quality standards and indicators;
- a systematic approach to 'system coherence' and technological sustainability;
- as well documented frames for development and peer community engagement.

Frameworks and Benchmarks

#dariahTeach delivers Open Educational Resources (OER), and as an ERASMUS+ Strategic Partnership. It also adheres to the European education quality and qualification frameworks as well as to the European Credit Framework (ECTS) for a framework of standards and indicators. It is by these metrics which #dariahTeach will assure quality in planning, developing, implementing, evaluating and enhancing existing and new teaching modules.

For quality enhancement and assurance of course design and delivery, as well as for staff and student support, #dariahTeach will build on benchmark indicators from EADTU E-xellence Label for high quality in e-learning that promotes aaccessibility, flexibility, interactiveness, and personalisation.

#dariahTeach key quality criteria are

- to be **extensible, open source** and **open access;**
- to further **asynchronous** and **flexible** learning;
- to allow **easy localization and adaptation**;
- to deliver learning content in English, with **translations** or **subtitles (as appropriate) in the language of the partner country** for specific modules;
- to develop across **multiple disciplines,** including both text and multimedia;
- to deliver content in **various degrees of complexity**;
- to allow use and reuse at **different levels** and in **different modalities of education**;
- to build on **iterative tests** in living teaching environments.

These key quality criteria overlap, in large measure, with findings in the user requirements interviews (see WP2 User Requirements & Benchmarking of Key Competencies), specifically on openness, transparency, and clear learning outcomes (use and reuse at different levels)

Open Educational Resources

OERs are teaching, learning and research materials that make use of tools such as open licensing to permit their free reuse, continuous improvement and repurposing by others for educational purposes (OECD, Dec. 2015)[3] #dariahTeach delivers Open Educational Resources (OER) for integration in courses or for individual learners. #dariahTeach OERs are community developed and assessed, and they are quality assured as flexible and open.

Three key potentials of OER are highlighted by the OECD report (Orr et al 2015:11)

- Digital technologies have become ubiquitous in daily life and OER can harness the new possibility afforded by digital technology to address common educational challenges;
- OER are a catalyst for social innovation, which can facilitate changed forms of interaction between teachers, learners and knowledge;
- OER have an extended lifecycle beyond their original design and purpose. The process of distribution, adaptation and iteration can improve access to high-quality, context appropriate educational materials for all.

The OECD report also states that while OER provide "flexibility and adaptability, which enable educational resources to change over time and in different contexts," this flexibility also challenges existing quality assurance procedures, which often assume "a hierarchical structure of quality control and relatively static educational materials" (Orr et al 2015:64)

To illustrate how trust in OER quality may be built, the OECD report cites J. Hylén's[4] (2006) four-field matrix that differentiates between two opposite sets of procedures: decentralised versus centralised and open versus closed

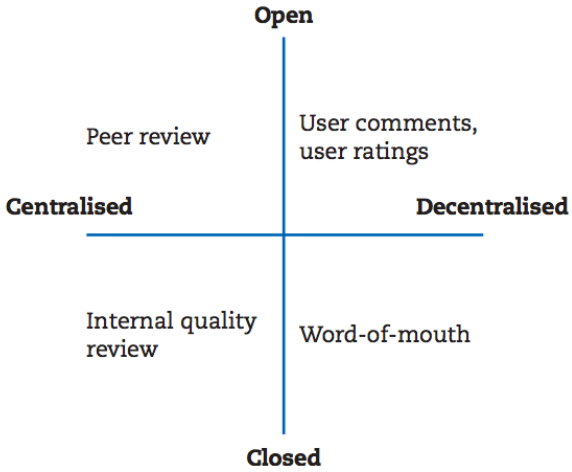

Fig 1. Dimensions of Quality Assurance Regarding OER[5]

[3] Orr, D., M. Rimini and D. Van Damme (2015), Open Educational Resources: A Catalyst for Innovation, Educational Research and Innovation, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264247543-en
[4] Hylén, J. (2006), Open Educational Resources: Opportunities and Challenges, http://www.oecd.org/edu/ceri/37351085.pdf.
[5] Orr et all (2015), p. 69

Survey “respondents favoured qualitative evaluation from other users over rating schemes, which identifies the need for building communities of trust to encourage the sharing of OER” (Orr et al, 2015:68), on the other hand quality assurance by approved frameworks guaranties students and learners the possibility of integrating the use of OERs in a study programme and also, if required, to validate credits.

To meet this challenge #dariahTeach proposes to follow existing quality assurance frameworks for learning outcomes and credit, in order to provide monitored mobility in learning for students, to adopt EADTU e-learning benchmarks for curriculum design and delivery, while building quality assurance on peer engagement and design cycles with DH teaching and educational research communitie, in order to guide and provide quality development while maintaining both flexibility and openness.

European Frameworks for Learning Outcomes and Qualification Levels

As indicated by the European Qualifications Framework for Lifelong Learning (EQF) report, “The strength of European higher education is the cultural richness and diversity, as represented by the 46 participating countries in the Bologna Process. This is an advantage for European students and an attraction for students from outside Europe. The Bologna Framework and the development and implementation of national frameworks of qualifications are central to removing the barriers to mobility and the creation of a common language for qualifications.” (European Qualifications Framework for Lifelong Learning (EQF), 2010/2012)

#dariahTeach Modules (Courses) and Workshops reference

- the Bologna Qualification Framework[6] for qualification levels in Higher Education (BA and MA);
- the European Qualification Frame for Lifelong Learning[7] for describing learning outcomes as acquired knowledge, skills, and competences;
- the European Credit and Accumulation Transfer System[8] (ECTS) for accounting for expected student workload per learning unit.

The European qualification frameworks provides pathways to enhance and assure quality that is: internationally transparent, gives international recognition of qualifications to ensure employability and access to continuing education, which ensure learners, students, and graduates international mobility per transnational recognition of acquired learning and qualifications.

The quality assurance through the European qualification frameworks signifies a shift in focus from knowledge input (lengths of a learning experience, type of institution) to learning outcome: what a person holding a particular qualification actually knows and is able to do. This makes qualifications more readable and understandable across different countries and systems in Europe and thus assures quality within a framework, while also enhancing mobility.

#dariahTeach references higher education cycles for levels 1-2 of qualifications: BA (level 1) + MA (level 2), and describes learning outcomes on these levels defined as the knowledge, skills and competences acquired through a #dariahTeach module (course) workshop.

Qualification descriptors are usually designed to be read as general statements of the typical achievement of learners who have been awarded a qualification on successful completion of a cycle. The descriptors are mainstreamed with national qualification frameworks for higher education. A

[6] http://www.ehea.info/pid34779/qualifications-frameworks-three-cycle-system-2007-2009.html
[7] https://ec.europa.eu/ploteus/sites/eac-eqf/files/journal_en.pdf
[8] http://ec.europa.eu/education/resources/european-credit-transfer-accumulation-system_en

common recognizable trait is that credits are given in ECTS, and only higher education may credit in ECTS credits

The Bologna Qualification levels 1-2 is described in short form below:

Level 1 – BA or Professional BA: 3-3½ years, following upper secondary education

Qualifications that signify completion of level 1 are awarded to students who:

- have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study
- can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study
- have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues
- can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences
- have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy

Level 1 typically include 180-240 ECTS credits[9]

Level 2 – MA: 1-2 years, following level 1 education

Qualifications that signify completion of level 2 are awarded to students who:

- have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with level 2, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context
- can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study
- have the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgements
- can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously
- have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous

Level 2 typically carries 90-120 ECTS credits, with a minimum of 60 ECTS credits[10]

#dariahTeach provides metadata on learning outcomes and qualification level, referencing the above explained qualification frameworks.

[9] A Framework for Qualifications for the European Higher Education Area, 2007, p. 72
http://www.ehea.info/pid34779/qualifications-frameworks-three-cycle-system-2007-2009.html
[10] Ibid.

Title	Multimodal Literacies and Audiovisual Media
Description	The module introduces the notion and practice of multimodal literacies in digital culture.
Explicit Learning Outcomes of the Module	- understand the principles of multimodal literacies in the production and transmission of knowledge - understand the basic principles of the impact of orality, visuality and writting on knowledge in a digital age - understand the use of editing digital tools - understand how the digital turn has impacted oral history and sound studies - be able to apply certain tools on text, sound and images
Prerequisites	None
Acquired Competencies	the competences aquired are for analysing, curating, producing and sharing knowledge in multimodal and transmedia formats such as e-talks, digital maps with sound, image and text, and other multimodal publications

Fig 3. Metadata excerpt on learning outcomes and acquired competences from #dariahTeach Module on Multimodale Literacies and Audiovisual Media

ECTS Credits: European Credit Transfer and Accumulation System[11]

The European Credit Transfer and Accumulation System (ECTS) is a credit system designed to make it easier for students to move between different countries. Since they are based on the learning outcomes and workload of a course, a student can transfer ECTS credits from one university to another so they are added up to contribute to an individual's degree programme or training.

ECTS helps to make learning more student-centred, and ECTS also helps with the planning, delivery and evaluation of study programmes, while making them more transparent

ECTS credits express the volume of learning based on the defined learning outcomes and their associated workload. 60 ECTS credits are allocated to the learning outcomes and associated workload of a full-time academic year or its equivalent, which normally comprises a number of educational components to which credits (on the basis of the learning outcomes and workload) are allocated. ECTS credits are generally expressed in whole numbers.

When applying ECTS credits in quality enhancement and assurance, it is important to stress that[12]

- Credits are most effective when they are allocated to learning programmes and expressed in terms of 'notional learning time', which is the average number of hours a student will take to achieve specified learning outcomes and thus successfully gain credits;
- Credits have a significant link to academic standards. In particular, the explicit identification of assessment criteria in relation to learning outcomes and teaching/learning methods is essential for any credit system;
- Credits quantified in terms of learning outcomes gain a more sophisticated dimension and thus more clearly express their 'value' or 'currency';
- Learning outcomes are precise statements of what a learner can do once credits have been successfully gained ;
- The explanation of credits (in terms of curricular context: levels, learning outcomes, notional time and assessment regime) aids the precise explanation and vindication of standards. Without such definitions and links credits remain simply crude statements about the volume of learning;
- It is essential to link credits to quality assurance mechanisms in order to give them real application and thus 'currency' in the European area.

[11] http://ec.europa.eu/education/ects/users-guide/glossary_en.htm
[12] The Bologna Process "Tuning Project", 2002

#dariahTeach provides metadata (by LOM standards) on ECTS: the average number of study hours a student will normally need to complete a module/course or lesson while acquiring the described learning outcome on a qualification level

1	**Theories of text modelling**	**20**			
1.1	**Why use a markup language?**	**5**			
	What is a markup language and why use one?	5	A brief history of markup (languages). Why is markup used and where is it used.Examples: LaTeX and XML	Text + embedded video or audio	Embedded interactive examples? LaTeX, HTML, XHTML, Identify text stucture and assign labels: headings and paragrahs, etc.
1.2	**Why do we use TEI?**	**5**			
	Difference between TEi and other markup languages	5	The main differences between markup languages will be discussed. What is different between TEI and other markup languages.	Text + embedded video or audio	Embedded interactive examples? LaTeX, HTML, XHTML, Identify text stucture and assign labels: headings and paragrahs, etc.

Fig.2. Fragment of metadata from the #dariahTeach Module on Text Encoding (TEI) with average student hours for the course (20) and lesson (5)

Flexible Online Learning

For quality enhancement and assurance of #dariahTeach as an e-learning environment, the EADTU (European Association of Distant Teaching Universities) E-xellence Label[13] for high quality in e-learning will provide a framework for benchmark criteria for curriculum design, course design, course delivery, staff and student support

The European Association of Distance Teaching Universities (EADTU) is Europe's leading association for Lifelong Open and Flexible (LOF) learning in distance Higher Education (HE) (www.eadtu.eu). As well as e-learning, the model of LOF learning embraces a range of other characteristics such as open learning, distance learning, online learning, open accessibility, multimedia support, virtual mobility, and learning communities.

The EADTU E-xellence Label[14] validates e-learning environments and facilities for

- Accessibility
- Flexibility
- Interactiveness
- Personalisation

and provides benchmarks, criteria and indicators as well as instruction videos.

The EADTU E-xellence Label has been chosen for quality assurance of #dariahTeach as an e-learning environment because EADTU as an organisation for higher education online learning represents expertise and experience from a European tradition for distance learning and thus accords with #dariahTeach as a European project for teaching development through OER.

[13] The E-xcellence project is carried out with the support of the European Commission, Directorate-General for Education and Culture, under the Life Long Learning-programme.

[14] http://e-xcellencelabel.eadtu.eu/images/documents/Excellence_manual_full.pdf, the EADTU E-xellence Label is CC licensed

Significantly, the EADTU key standards for the E-xelence Label – accessibility, flexibility, interactiveness, personalisation – are in line with #dariahTeach key values for quality in learning, e.g. the key standard 'Flexibility' as defined by EADTU as the:

> Provision of study in such a way as to allow students to choose their own time, pace and place of learning. It also describes how programmes of study may allow students to choose courses or topics of particular interest to them […] E-learning offers the opportunity to provide flexibility in the time, place and pace of learning. The presentation of content can be more flexible and the didactic approach more open. When e-learning is integrated with other study modes, providers need to demonstrate that students can extract the maximum benefit from the flexibility offered.[15]

And

> At the **macro** level students may have the flexibility to start and complete courses and programmes to schedules of their own choosing. At the **micro** level e-learning offers the possibility for students to work to flexible timetables of their own choosing within a cohort of students progressing through the course or programme to overall schedules established by the institution.[16]

#dariahTeach will be guided by the EADTU E-xellence Label for the conceptualization and design of curriculum and courses with regard to how learning and teaching will enhance new ways of working within the learning environment (flipped classroom), using digital methods and tools and engaging with innovative and well conceptualized learning objects. #dariahTeach design of curriculum and course will enhance an overall student focused learning perspective, while assuring the transparency and alignment of qualification levels, learning outcomes and ECTS credits.

Adopting EADTU E-xellence benchmarks highlights the need for quality assurance in the intersection between an OER, such as #dariahTeach, and higher education institutions integrating the OER. Feedback from these institutions or teaching and learners communities within these institutions will be of a high value to #dariahTeach quality enhancement.

#dariahTeach provides a visualized benchmark matrix for curriculum design, course design and delivery that enables quality assurance of #dariahTeach modules/courses and lessons as well as the evaluation of implementation and integration with HE institutional environments.

Curriculum Design

Curriculum designers need to be clear about definitions of credit and credit value, workload measures, credit levels, qualification requirements, learning outcomes, generic skills development, assessment criteria, etc. Each of these factors will impact on the policy for credit transfer into and out of the programme.

The benchmarks adopted from EADTU E-xellence for curriculum design addresses the intersection between #dariahTeach as an OER and the institutions and communities integrating #dariahTeach material in curriculum design and implementation in a study programme:

Benchmarks adopted from the EADTU E-xellence manual include:

[15] Opcit. p.28
[16] Opcit. p.29

- #dariahTeach components offer personalisation and a flexible path for the learner, while ensuring the achievement of learning outcomes;
- Learning outcomes are assessed using a balance of formative and summative assessment appropriate to the curriculum design[17];
- Curricula integrating #dariahTeach components are designed to include e-learning components that contribute both to the development of subject specific educational outcomes and to the acquisition of more transferable educational skills;
- Curricula may be designed to enable participation in academic communities via online social networking tools such as discussion fora, in a #dariahTeach second phase. Such online communities would provide opportunities for collaborative learning, contact with external professionals and involvement in research and professional activities.

Course Design

The development of each course should include a clearly documented course specification which sets out the relationship between learning outcomes, learning activities and assessment. When integrated into a traditional classroom, #dariahTeach modules/courses and lessons may include in a blend of e-learning and face-to-face components; the choice of components should take account appropriate assessment methods, levels of interactivity and provision of feedback.

Aspects of course design and implementation may be delegated to an outside agency such as #dariahTeach (a consortium partner, commercial developer or through use of OER). However, the parent institution should retain oversight and responsibility.

Benchmarks adopted from EADTU E-xellence manual include:

- Each #dariahTeach module includes a clear statement of learning outcomes in respect of both knowledge and skills. There is reasoned coherence between learning outcomes, the strategy for use of e-learning, the scope of the learning materials and the assessment methods used;
- Learning outcomes determine the means used to deliver course content. In a blended-learning environment there an explicit rationale for the use of each component in the blend;
- #dariahTeach design, development and evaluation involve individuals or teams with expertise in both academic and technical aspects;
- #dariahTeach materials have sufficient interactivity (student-to-content or student-to-student) to encourage active engagement and enable students to test their knowledge, understanding and skills;
- #dariahTeach learning materials provide learners with regular feedback through self-assessment activities or tests;
- #dariahTeach modules, courses and lessons conform to explicit guidelines concerning layout and presentation and are as consistent as possible across the entire offering of #dariahTeach OERs;
- when #dariahTeach provides criteria for assessment, assessment is explicit, fair, valid and reliable;
- #dariahTeach materials, including the intended learning outcomes, are regularly reviewed, up-dated and improved using feedback from stakeholders as appropriate.

[17] For students using #dariahTeach modules within an institutional context, indicative or sample formative and summative assessment will be provided for teachers to integrate into their learning outcomes.

Course delivery and the #dariahTeach technical platform

Course delivery encompasses the Virtual Learning Environment, the learning platform, Learning Management System (LMS) and/or other interfaces through which students receive their course materials. It also includes the way they communicate with fellow learners and staff, when #dariahTeach material is integrated into institutional curricula and study programmes.

The "system" through which the e-learning student interacts with the University may have several components: a system through which the student accesses learning materials and teaching services, an administrative system that handles registration, etc. These components may be commercially acquired or developed by the institution itself. We are using the term VLE as a coverall term to describe this interface. In a well developed system a student should be able to access all services via a single log on.

These systems represent a very significant investment of financial and human resource in their acquisition, establishment, and on-going support. The selection of a particular system, which may influence teaching developments for many years, should be driven by both educational and technical requirements. Educational requirements include delivery of learning resources, facilities for online communication and tools for assessment. Technical requirements include reliability and security standards. The delivery system should be reviewed and monitored to ensure it continues to meet these requirements.

#dariahTeach ensures that the technical platform and thus the #dariahTeach learning environment is sustained to provide accessible and flexible OER. #dariahTeach builds on a the Moodle LMS that will integrate with most LMS', but #dariahTeach cannot ensure technical interoperability with all LMS and virtual learning environments.

Technical environments for enrolling for exams, for digital grading etc. are the responsibility of the institutions integrating #dariahTeach learning material.

Effective course delivery requires collaboration between academic and operational divisions of the institution. Technical infrastructure should serve the educational requirements of the academic community, both students and staff.

Benchmarks adopted from EADTU E-xellence manual include:

- The technical infrastructure for maintaining the e-learning system and its continued fit for purpose must support both academic and administrative functions. Technical specifications are based on stakeholder requirements and involve realistic estimates of system usage and development;
- The institutional systems for communication and provision of information are secure, reliable and assure appropriate levels of privacy. Measures are in place for system recovery in the event of failure or breakdown;
- Appropriate provision is made for #dariahTeach system maintenance, monitoring and review of performance against the standards set. These standards are updated when necessary;
- The #dariahTeach learning environment provides a choice of online tools which are appropriate for the educational models adopted and for the requirements of students and educators;
- Information about how to use the #dariahTeach learning environment and services is provided to all users in a logical, consistent and reliable way;
- #dariahTeach materials and information accessible through the #dariahTeach platform are regularly monitored, reviewed and updated. The responsibility for this is clearly defined and those responsible are provided with appropriate and secure access to the system to enable revision and up-dating.

Sustaining Quality in Learning Content and Methods

#dariahTeach is developed by peer communities with expertise in DH teaching as well as in new learning methods. Modules/courses and lessons as well as learning objects are tested with peer communities and in learning environments in recommended cycles of three iterations. As such #dariahTeach is built, developed and quality assured within a frame for design thinking with peer and user communities including, teachers and trainers.[18]

#dariahTeach will sustain and enhance its community-based quality assurance of OER development by

1) establishing a #dariahTeach Editorial Board with experts from key peer communities
   - the editorial board will be responsible for quality assurance of existing OER as described and for connecting with institutions integrating #dariahTeach material to receive and act on feedback;
   - the editorial board will be responsible for monitoring that the technical platform is sustained in a way that allows for continuous access to and use of #dariahTeach materials;
   - the editorial board will be responsible for assessing new #dariahTeach modules and for enhancing acknowledgement of such work with DH teaching communities;
   - the editorial board will be responsible for editing the #dariahTeach journal.

2) sustaining a dynamic #dariahTeach network of peer communities, through DARIAH.eu for teaching and training, that will
   - disseminate #dariahTeach;
   - liaise with peer communities for testing environments and design workshops;
   - sustain a design-thinking dynamics with #dariahTeach.

3) establishing a journal format for /a collaborative library of #dariahTeach OER offerings:
   - that is open, online, co-designed and peer reviewed;
   - under the responsibility of #dariahTeach Editorial Board, that will design an assessment and academic meriting process for publication of #dariahTeach modules/courses;
   - with contributions from DH teaching communities, that will grow the #dariahTeach network;
   - providing development and acknowledgement of DH learning enablers;
   - making DH OER shareable and scalable;
   - building mechanisms to support the exchange of DH teaching ideas and innovative practices.

[18] For such principles and practices, see Diana Laurillard: Teaching as Design Science. Building Pedagogical Patterns for Learning and Technology. Routledge 2012