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# Open Educational Resources in Europe: A triptych of actions to support participation in higher education

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**Abstract:** In contrast to the face-to-face learning of campus based universities and the focus on traditional students, distance teaching universities focus on a mix of distance learning, e-learning, open learning, virtual mobility, learning communities, and the integration of earning and learning. In doing so, they are taking a leading role in helping to increase and widen participation in lifelong open and flexible learning in higher education by non-traditional groups. This paper discusses three leading-edge European Open Educational Resource initiatives. The initiatives are special in nature and differ from the offers of traditional universities in the sense that they: consist of pedagogically-rich learning materials, specifically designed and developed for distance learning and intended for independent self-study; are compiled in the national languages, with the EADTU initiative being multilingual, reflecting the European dimension; and, support and are supported by the policies of the national governments and the European Commission.

## Introduction

Despite the efforts of governments and other agencies, there remain significant differentials in access to educational opportunities. These differentials are stark within developed countries such as the UK, the Netherlands and the US, and even more dramatically evident in the disparities between developed and less developed countries. Open Educational Resources (or OERs) provide an opportunity for access to high quality learning materials which would not otherwise be available and within the financial grasp of many groups within the developed and developing worlds. While the MIT OpenCourseWare initiative (Anon, 2006a), for example, has been very successful in generating a great deal of interest in the area of OERs, its own evaluation suggests that most of the learners have a high educational level. This indicates that the initiative is not yet reaching those who might most greatly benefit from it. Recent expansion of the opencourseware model to Japanese and Spanish/Portuguese language universities emphasizes the global appeal of the concept, but increasingly it will need to appeal to a wider audience of independent learners as opposed to teachers.

So, the issue facing OER providers is how OER delivery can maximize learning, encourage further learning, and engage with hard to reach groups, moving OERs beyond a principal focus on rights management issues to supported learning communities using web based technologies. There is an increasing recognition that content by itself will not be sufficient for the empowerment of learners just as libraries are not the same as universities, and that the key issue is not so much access to content itself which in an information rich world is increasingly easy, but how to use and support this content in empowering ways in both formal and non-formal settings. At the same time, there is a need to develop the knowledge base in relation to OER delivery and its place within the wider e-learning environment. While much of the initial focus on e-learning was on its potential as a delivery mechanism there was also a movement which stressed the importance of dialogue, collaboration and community building. This then raises further issues of utilizing OERs originated in one language and culture in another language and culture, and how to adapt to the contrasting pressures of internationalization of content and localization of content.

It will also be necessary to understand better what sustainable and scaleable models of OER delivery there may be as a basis for the long-term development and extension of OERs, and to understand these matters in the context of a changing world in which technology, the internet and globalization provide structural forces in the contemporary environment which are pushing towards the opening up of content and to a rethinking of the intellectual property regime. Re-thinking the intellectual property regime in the light of open content aspirations and objectives will also require attention to issues of quality and how that

can be both managed and monitored in an OER learning environment. Understanding better how quality can be assured will be another key feature of future sustainability.

Fundamentally, educational institutions have a charter to generate and disseminate and test, examine and certify knowledge as effectively as possible, in terms of the quality of the output and the size of the audience reached. The internet opens up intriguing new dimensions to this challenge, not only by increasing the potential audience for published materials, but more profoundly, by improving the rate at which materials evolve by providing a collaborative medium for the mutual exchange of ideas, whilst still honoring intellectual property rights. Open and Distance Learning (ODL) universities regard the open content movement as a key opportunity to better fulfil their missions to open up education, drawing upon two significant factors that they can bring to the OER field - scale and experience. Scale in terms of the quality of archive material available that can be repurposed in varying degrees for online dissemination, and also in terms of developing robust systems (both technological and pedagogical) that provide a meaningful learning experience to large student populations. Experience in terms of creating distance education material that is designed to be studied by independent learners who often have competing demands on their time and a range of needs and experience. In this respect the ODL Universities differs from many of the other open content providers whose material was created on the assumption of face-to-face use or at best blended use. The three initiatives discussed in this paper will all help to increase understanding of the impact on users of materials developed specifically for distance learning.

Another strand of the three initiatives will be the creation and deployment of suitable learning tools, portals and processes for developing and supporting content creation and delivery. By placing greater emphasis on the environment, tools and support than the content itself, the ODL universities recognizes that learning does not take place in a social vacuum. On a traditional campus, the standard lecture may be analogous to the delivery of content, but students on a campus also engage in learning through non-formal dialogue in bars, libraries, corridors, etc, and participate in tutorials and study sessions. E-learning needs to replicate and/or extend these different modes of communication and learning experience if it is not to be seen as a poor relation to conventional education. Similarly there is limited experience of the sharing and collaborative development of ODL materials in order to extend the range and type of courses that can be offered to students. These three different initiatives will help with an understanding of how such communities of course developers, learners and course developers and learners together can be created and supported through OER provision.

## EADTU - Multilingual Open Resources for Independent Learning (MORIL)

### *European developments*

Demographic developments within Europe, in particular the aging of the population, and the new and more competitive global economy, have forced the European Commission (EC) to reorient its policies for achieving the traditional objectives of stable and assured economic growth and employment. Consequently, the Commission launched a (renewed) Lisbon strategy (EC, 2005), to boost the investments in human capital through better education and skills. Backed by the adoption of a lifelong learning program 2007-2013, the EC measures should be responsible for the creation of more and better jobs.

“Widening participation in higher education” and “spreading knowledge through high-quality education systems” is viewed as the best way of guaranteeing the long-term *competitiveness* of the Union. Especially in light of the positive relationship between productivity, economic growth and general wellbeing, on the one hand, and a change in stock of human capital, on the other hand (OECD, 2005). European educational systems are required to intensify their efforts to make substantial contributions to the Lisbon agenda.

### *Current situation on HE participation*

So what is the situation now, what are current comparative figures on participation in formal learning? Presented in Table 1 is the percentage of young people entering tertiary education, regarding type A programs. This is the proportion of people after secondary education that enters into tertiary education for the first time. The inflow is measured rather than the stock of students (i.e., enrolment rates), so that that comparability between countries is not distorted by different course lengths.

Table 1. Selection of net entry rates to higher education as a percentage (OECD, 2004; 2005)

	2002	2003
Iceland	72	83
New Zealand	66	81
Sweden	75	80
Finland	71	73
Netherlands	53	52
United Kingdom	47	48
France	37	39
Belgium	32	34
United States	64	63

Although the participation rates in European HE have generally risen, there seems to be a *big difference* between the leaders and followers. Among the frontrunners of entry percentages are, prominently, the Nordic European countries. Overall action is legitimized so as to catch up with both Nordic leaders and the US. Besides, the percentages displayed function also as indicators of both the accessibility and perceived value of tertiary education. Therefore, it is evident that *access* and *importance* of education must be promoted more. The European Commission however has recently expressed its concern with regard to the progress of operations by the universities in the field. They seem to be failing to address the lifelong learning agenda and the substantial widening of participation. The Commission identifies that universities act conservatively in tending to offer the same courses to the same age groups whilst failing to open up to other types of learning and learner groups.

*Opportunities for Universities dedicated to Lifelong Open and Flexible learning*

Contrary to traditional universities, universities in distance HE have a great deal of experience in addressing the target groups identified by the Commission. They have an approach of leveraging important target groups which are currently not addressed (or in part) by traditional universities, namely: those individuals who are not served by traditional universities (earning and learning, career shift, personal enrichment), those who have not entered into higher education because of multiple deprivation (social status, handicapped, minorities), those labor force participants seeking in-company learning activities (re-skilling, retraining), and persons who have prematurely dropped out and are opting for a second chance (educational re-entry, renewed motivation). Though properly equipped for serving the target groups identified above, the universities in distance HE are also clearly in transition.

With demographic developments and the requirements of a global competitive economy, universities need to increasingly address learning throughout people's entire life (whether that is formal, non-formal and/or informal). It calls for an approach which crosses *ages, sectors and borders*, something the universities in distance HE, already, have great experience with. With traditional universities still fixed on students between the ages of 18-25, universities in distance HE can now leverage their years of knowledge and experience and start delivery of high-end online educational materials to the lifelong learner. Universities in distance HE are seemingly migrating towards *Universities dedicated to Lifelong Open and Flexible (LOF) learning*.

Europe is well served by LOF-learning Universities which provide opportunities to the upcoming lifelong learner, as well as to the many people which are not well served by traditional universities. LOF-learning Universities produce materials which are specifically designed and developed for distance learning, for independent self-study. Offers consist of *pedagogically-rich* learning materials. Materials are designed to be accessible to an individual, studying off-campus at home or at work in ways that matches their needs

and circumstances, and are surrounded by innovative support structures which encourage group interaction and tutorial support.

#### *EADTU: The MORIL project*

Given the European developments and the new opportunities arising for the LOF-learning Universities, the European Association of Distance Teaching Universities (EADTU), has initiated the MORIL (Multilingual Open Resources for Independent Learning) project, with the objective to widen participation in HE (contribution to renewed Lisbon agenda), facilitate international learning experiences, brand LOF-learning Universities (first European, next global), gain experience with Open Educational Resources (OER), and provide a new gateway to university education for different target groups. MORIL is to disseminate a first wave of Open Educational Resources (OER), freely and online, throughout Europe, in a "multilingual" format.

The OER offers of MORIL consist of a two-track concept: a non-matriculated study offer and a matriculated study offer. The non-matriculated offer, consists of open and free '2 ECTS sized' (about 50 study hours) courses, entry-level bachelor, to freely acquire knowledge and skills, having an online informal learning surrounding, discussion boards, online communities, and build-in self-evaluation quizzes. The matriculated offer, consists of the same '2 ECTS sized' courses, but now including certification and labor market recognition, online formal learning surrounding, formal tutoring, formal assessment, formal examination, teacher communication, and other learning privileges.

Prospects targeted are invited to try new ways of learning. Not seeking regular campus education (i.e., face to face) because of their personal/ professional constraints, persons can enter off-campus learning, either via the informal 'open' route or via the formal study program. Those opting for the informal course program can easily utilize the Open Educational Resources available. Opting for a formal course program, one may register and enrol via the official channels. Having experienced the Open Educational Resources, one may however still take the course in the version of the official program, then having the advantages of capitalizing on ECTS/certification and formal learning privileges. Both non-matriculated and matriculated offers are seamlessly interconnected and provide the public a new gateway to university education, the assumption here being that this explicit bridge from informal to formal learning offers a crucial driver indeed.

#### *MORIL opportunities*

As not every LOF-learning University in every European country has a very broad and deep curriculum to suit the needs of their own population or the Diaspora working in other European countries, with MORIL, they can now offer more opportunities collectively. Each university is given the opportunity to take advantage of the open courses and enrich ones own curriculum. Each course can be converted to fit local needs: courses can be translated (multilingual versioning) and localized (cultural versioning), so as to better fit the domestic profile.

A benefit is the learning experience obtained in creating and evaluating the multilingual courses. Understanding of translation and localization processes will increase and facilitate the development of new and sustainable models. EADTU will capitalize on its learning experience by sharing the expertise obtained. EADTU can provide consultancy services on localization, and might organise training and support seminars in the field.

An additional advantage is the presence of a 'European consortium model for collaboration', especially of interest in the sense that this European collaboration model provides a reference (a best practice) for US States to collaborate on OER, herewith learning ways of overcoming potential barriers which are currently hindering inter-state collaboration between American universities (differences in funding schemes, culture, legislation, etc).

OERs could be the next step in the innovation cycle of universities. The sustainability of OERs, however, strongly depends on and integrates with university policy and strategic management. For success to happen, commitment on OERs should be achieved on all echelons inside the university. EADTU is able to assist universities to design dedicated innovation strategies on OERs. EADTU can organize strategic

management seminars on location (to devise an institutional methodology) as well as generally (benchmarking different institutions). This is an enormous drive for stepping up open source activities.

Another opportunity is the creation of the possibility to be able to see how and where content is disseminated (globally), and in what form and version it lives on. Accordingly, tracking of localization done by universities in this respect is important. It is essential to monitor and track the localization within the partnership and, moreover, outside the partnership (as this may occur even more often). Mechanisms for this must be capitalized upon, and knowledge hereof must be spread.

Finally, students will obtain a true international learning experience as they go online and meet other students from abroad, in a virtual setting on the central portal, and exchange experiences about the same course (in different languages). Multilingual (virtual) workshops may even be facilitated on this portal to let students from all over the world come together on discussing the courses. A true multilingual and cultural exchange format is promoted. Moreover, the central information portal provides a central gateway, i.e., a common portal, to all the institutional hubs with all available courses to choose from.

#### *University partners*

The MORIL partnership consist of the Open Universiteit Nederland (OUNL) – the Netherlands, the Open University (OUUK) - United Kingdom, the FernUniversität in Hagen (FUiH) – Germany, the Network per l'Universita Ovunque (Nettuno/UniNettuno) – Italy, the Universidad Nacional de Educación a Distancia (UNED) – Spain, the Centre National d'Enseignement à Distance (CNED) – France, the Anadolu University (ANUN) – Turkey, the Universidade Aberta – Portugal, and the Moscow State University (MESI) – Russia.

#### *Co-funding*

The MORIL project is co-funded by the William and Flora Hewlett Foundation.

#### **The United Kingdom Open University: OpenLearn**

The United Kingdom Open University (UKOU) has a large catalogue of high quality learning materials in a variety of formats and is going to make some of those educational resources freely available in a web-based environment under the Attribution Non-commercial Share Alike Creative Commons Licence (Anon, 2006b). In doing this, the OU wishes to add value to OER delivery by deploying leading edge learning management tools for learner support, by encouraging the creation of non-formal collaborative learning communities and by enhancing international research-based knowledge about modern pedagogies for higher education. Drawing on its long experience of delivering supported open learning at scale to anyone, whatever their previous educational qualifications, the University expects to make a significant impact on both the quality and reach of OER delivery. In doing so, the UKOU will hope to meet the learning needs of a wide range of people with differing levels of educational achievement, skill and confidence.

The project is, therefore, an obvious extension of the University's educational mission (Anon, 2006c). At the same time the OU will be giving careful consideration to the impact of this initiative on its core business and to the opportunities of sustaining the initiative through new or redirected funding streams.

Our plans (Anon, 2006d) between May 2006 and April 2008 are to create two interlinked websites that offer different users the opportunity to variously engage with OERs and with other users of the sites.

#### *The LearningSpace: a supported Open Educational Resource site for learners*

A short term goal is to progressively place a wide selection of pedagogically structured OERs derived from OU materials in a *LearningSpace* website. Integral to this site will be an appropriate selection of *open source support tools* based on Moodle (Anon, 2006e) that will help users (principally learners) manage their chosen content (self support) and suitably interact with other users (peer support).

Key characteristics of the individual units of OERs are that they will:

- be from 3 to 15 hours of average expected study time in size (being equivalent to an evening's through to a week's work)
- have a contents list of the different resources that comprise the unit
- have clearly defined learning outcomes related to level of study with inbuilt, formative, self-assessment activities relating to those learning outcomes.

Each unit will be self contained but there will be a series of units in a cognate discipline area e.g. psychology, mathematics. Suggested pathways through some or all of these units will be outlined to give a 'course of study' but users will be free to organise their own pathways to suit their own needs whether as an individual learner or as a teacher of a group of learners.

We are developing a limited number of models for these self contained units which will provide a framework shaping the re-development and presentation of content and associated tools reflecting the needs of different pedagogies and learning needs. We will also take into account the degree of re-configuration of the source material is required and the amount of third party material that needs to be removed to be able to make it available under a Creative Commons license.

We intend to have 900 hours of OERs available in the LearningSpace at launch in October 2006 rising to 5400 hours by April 2008.

#### *The LabSpace: a supported Open Sense-Making site for educators*

Whereas the LearningSpace will contain fixed units of read-only OERs that can be strung together as appropriate (in the same way students select modules within our taught modular programs), we also wish to foster the dis-aggregation and re-aggregation of these materials and material from other sources to create new, or new versions, of units. The LabSpace will be where a greater variety of units will be placed and from which users (in this case mainly the creators of courses) can construct a wider range of learning experiences. The LabSpace will contain a larger amount of material and will be in less structured form (both the 5400 hours worth of units in the Learning Space plus a further 8100 hours of other archive OU material by April 2008), and it will provide a site to which others will be able to contribute both within and outwith the current OER movement.

The sense-making site will have a slightly different support tool collection for learning management and community building and be much more dynamic in the way that resources are developed and used by a very committed and well educated set of communities. Initially we will deploy open source tools that have already been developed by the Knowledge Media Institute at the UKOU (Anon, 2006f).

#### *User communities*

A short to medium term objective through the LearningSpace is to *widen access* to high quality, pedagogically structured educational resources that can be either studied by individual learners or that can be used by organized or self-organizing groups/communities of learners, whether that be part of formal education in another higher education establishment organized by a teacher, or non-formal opportunities started by key individuals in the same way that on-line discussion groups do. The range of support tools available will facilitate the initiation and development of such formal and non-formal 'courses'.

Similarly, the short to medium term objective of the LabSpace is to *widen availability* of OER of varying types and sizes and of open source tools of differing capabilities to enable educators based in all countries, and, hopefully, cultures, to localize or develop OERs suited precisely to their needs. A key feature in making this successful will be the appropriate facilitation of networks linking course creators together and the establishment of special schemes through dedicated funding.

In the longer term we would also like to *widen participation* in this virtual learning experience from those people in society who are, for example, less confident, less motivated, and/or less literate in the use of information and communication technologies. However, experience tells us that the most effective way to widening participation from under-represented groups is through partnerships and outreach activity whereby additional resources and particularly support from people is provided (including face-to-face

sessions or one-to-one telephone sessions). Establishing such partnerships does require dedicated funding from a wide range of sources and much time to set up, hence it being a longer-term goal.

#### *Co-funding*

The OpenLearn project is co-funded by the William and Flora Hewlett Foundation.

### **OpenER: The Open University of the Netherlands**

As part of the Lisbon agenda the government of the Netherlands has formulated ambitious objectives concerning increased participation in higher education. The OpenER project of the Open University of the Netherlands (OUNL) will test the use of OERs as a means of increasing participation in higher education. OpenER, through offering courses derived from existing distance learning courses and suitable for independent study, aims at letting learners get acquainted with higher education and helping them to gain experiences that boost their self-confidence and motivation to cross the threshold to formal higher education. OpenER is, thus, the 'appetizer', the enticement for further learning at the higher educational level. To enhance the effects OpenER will also offer opportunities for formal testing. The project can be characterized as a large-scale experiment (in terms of the number of targeted learners) taking place in 'reality' (i.e. in a fully operational setting). Concurrent to evaluation and effect measurement, research will be carried out into the forming of learning communities.

#### *Open Educational Resources in the Netherlands*

OpenER is an extension of the current wide-spread OER approach. It offers high-quality self-study materials that are centered on the learner and make independent study possible, comparable to the UKOU's OpenLearn initiative and the EADTU's MORIL project. A further special characteristic of OpenER is the involvement of the Dutch Government (i.e., the Minister of Education), as a co-funder of the project. OpenER will be one of the first OER-initiatives that could become part of a nation's education policy. The OpenER project is also co-funded by the William and Flora Hewlett Foundation.

A project like OpenER fits within the OUNL strategy to become the Lifelong Learners University of the Netherlands. It helps the OUNL's goal to contribute substantially to widening the participation in higher education and to provide learning opportunities for those who are not able to use offerings that are more traditional or are not part of the traditional groups of higher education entrants. For the OUNL it means going back to its basics, its roots: creating open access to higher education for large numbers of students on a non-commercial basis. It helps the OUNL to prove its added-value for society in its contribution to the knowledge-based economy in the competitiveness of Europe and in its contribution to raising the employability of individuals. In the execution of the project OUNL can draw from its large body of high quality course materials developed for self-learning and from over 20 years of experience in developing and delivering distance education.

#### *Problem/Theory of Action.*

How can we increase the number of people with higher education? This question has been raised by the Dutch Government in connection with the objective of raising the percentage of the Dutch working population with higher education towards a 50% mark. This objective is the Netherlands response to the EU agreement concluded in Lisbon in 2000 that set down the aim for the European Union of growing into the strongest knowledge-based economy in the world within the next ten years.

According to the most recent information, 24% of the working population in the Netherlands has enjoyed education at the university or college of higher professional education level. This percentage has to be increased dramatically. The number of school-leavers transferring from HAVO [senior general secondary education] and VWO [pre-university education] to higher education is already very high in the Netherlands. Forecasts indicate that demographic developments, among other things, are forcing a dramatic effort to be made towards achieving a substantial increase in the number of people with higher education. An area for attention is the fact that after completing primary school, some 60% of pupils go on to VMBO [pre-vocational secondary education]. The transfer to higher education along this path is much more difficult. Moreover, some sections of the population are under-represented and the percentage of older people with higher education is considerably lower than 50%. A substantial increase can be achieved by stimulating and facilitating participation in higher education by these groups.

The basic direction for solving this problem is the idea that at all educational levels pupils, students, the employed and the unemployed, should have full opportunity to develop their talents and skills in such a way that they can attain the highest educational level possible for them to achieve. The Dutch Education Council, the advisory body to the government in education matters, indicated three courses of action: (1) creating a wider range of learning pathways, (2) creating more diversity in higher education and (3) bringing more non-traditional groups (i.e. employed and unemployed people) to higher education by extending opportunities for lifelong learning based, amongst others, on an e-learning approach. OpenER fits in with the third course of action.

OpenER is compatible with observations indicating that, to achieve higher participation in higher education, existing thresholds must be lowered and the willingness of individuals to invest in educational activities must be stimulated. Easy access and transfer is required at all educational levels. In the report *'De helft van Nederland hoog opgeleid'* [Higher education for half of the Dutch population, the Netherlands Education Council identifies the OUNL initiative to make educational material available online as a good example of the measures that could contribute to this endeavor.

The characteristics OpenER will have underline the feasibility of using Open Educational Resources in an experiment to raise participation in higher education:

1. OpenER is flexible, open, time-independent and easy accessible. This is important whereas in the Netherlands the high workload makes it hard to find a place for learning activity in daily life (Netherlands Education Council 2003: *Werk maken van een leven lang leren* [Making lifelong learning work]).
2. OpenER requires an individual to invest time and effort but does not incur any out-of-pocket expenses. The content is self-contained. No materials have to be bought.
3. Due to the technology used, OpenER is simple and inexpensive for the end user to use. He or she is not required to make any investments in software or specific supplies. A standard PC with internet access and a web browser are sufficient. Details of such accessibility are shown in Table 2.

Table 2. Availability of high-speed internet access in households in the Netherlands by education level

<i>Type of Education</i>	<i>Internet Access in the Netherlands (% of all households)</i>	<i>High Speed Internet Access (% of households with internet access)</i>
Primary Education	66	71
Pre-vocational Education, lower level	71	67
Pre-vocational Secondary Education	85	74
Vocational and Secondary Education	88	73
College and University	92	71

Source: Report The Digital Economy 2005, Dutch Government Bureau for Statistics.

This means that for the groups especially targeted in this project, the Pre-vocational Secondary Education and the Vocational and Secondary Education levels, the availability of high speed internet access is well above the national average. In the last three years the availability of high speed internet access has sharply risen to the present level and the expectation is that there will be a significant further increase due to a combination of competition between reliable providers (cable and ADSL) and the already visible sharp drop in prices.

OpenER gives the individual (e.g. an intermediate vocational student) the opportunity to become familiar with the higher educational level without having to make an immediate financial investment. Additionally, there is no 'stress' because it involves online learning. Furthermore, testing in a person's own environment enables barriers to be broken down. The learner is the one who takes the step to formal recognition of delivered performance by means of the services provided for assessment and certification.

OpenER can also be an element in procedures for accrediting prior experience. This can be retrospectively tested by the OUNL or other institutions of higher education as an element in the portfolio of someone requesting accreditation of competencies acquired elsewhere.

OpenER offer learners the opportunity to seek out, establish and maintain contact with other learners and to form learning communities (Netherlands Education Council: *Kennisgemeenschappen en innovatie in het onderwijs* [Knowledge communities and innovation in education]). The chosen approach gives insight into the ways in which such community formation among learners occurs and how they can improve learning effects without any or only minimal interventions by learning institutions.

#### *Outcomes*

The tangible results of the OpenER project will be:

- 16 courses of 25 study hours each, suitable for self learning with high quality content on an entry academic level, based on the existing high quality OUNL material, launched in two batches in the fall of 2006 and early in 2007;
- a user friendly on-line delivery system;
- user friendly on-line facilities for self-testing and assessment: and
- a substantial amount of marketing and communication and resulting awareness with the Dutch population about OpenER.

The OpenER offering will continue to be available after the formal completion of the experiment, and thus further effects are expected. Outcomes of OpenER will thus be:

- freely available academic level educational materials without commitment by users;
- opportunities to test their capacity for learning among learners;
- opportunities for those with limited experience and confidence to become better prepared for formal education;
- opportunities for formal testing and certification as a starting point for higher education study;
- extra enrolments in Dutch Higher Education;
- knowledge about the effectiveness of open content delivery as a means of stimulating participation in higher education;
- knowledge concerning the effectiveness of open content delivery, particularly in relation to the use of distance education materials;
- papers and reports available to the OER community;
- research and evaluation results on open content delivery and community forming among users.

#### *Effect measurement*

The central factor in measuring the effect on those using the OpenER offering is the conversion of users into enrollers in some form of higher education. A method will be developed for retrospectively measuring those entering higher education as well as instruments to identify and follow users during the experiment. These procedures will be selected in such a way that any inhibiting effect on the (intended) use of OpenER is, as far as possible, avoided.

#### *Research*

The OpenER initiative is just what the name implies. It presents, that is it makes available, educational resources that can be used by all those who wish to use them for whatever reason. Though the materials that will be placed within the OpenER environment are pedagogically solid – in that they were initially developed to be self-instructional with a minimum of teacher or tutor support – they still can and should require interaction with knowledgeable ‘others’. The object of the Open Learning Support (OLS) aspect within OpenER is the further development and use of the OLS-software to enable informal learning communities to form around the OpenER content. These informal learning communities (Wiley, 2002, calls them On-line Self Organizing Social Systems) are meant to take the place of teachers/tutors as well as the usually available student-colleagues within traditional educational cohorts. The project, as such, aims at providing a means for users of OpenER content to seek and receive learning support from fellow OpenER-users while they are engaging in the learning process. The fundamental premise is that while open access to educational materials is a good start, full educational opportunity requires a user to have the social access to other human beings who can answer questions and provide support.

Utah State University is – for example – also trying to use and study the use of OLS in their and MIT's offerings. The differences with the situation in the Netherlands, however, are twofold and these differences will form the basis of the research.

First, the materials used in the other two initiatives are face-to-face materials that are meant for classroom use, and thus the pedagogies used are also based upon this situation. OUNL - and thus OpenER - materials are meant to be self-instructional and thus to replace the teacher. This means that we expect the need for collaboration with others in an online study-group not to be based upon the users' non-understanding of the materials and thus for clarification reasons, but rather for stimulating them to think more deeply about the learning materials. This deeper processing often necessitates discussion, dialogue and argumentation and thus could or should lead to a different type of need or desire for seeking other learners to achieve this deeper learning.

Second, the target population within this experiment is more mature (in any event based upon age) than the population in the other two initiatives. These people are already within the working population (meaning that they are time constrained) and are also used to working with others in teams to achieve working goals. OLS allows these participants to take part in small, dedicated learning groups at their own discretion.

### *Approach*

This initiative is designed to study how to support OpenER users (learners) in their exchange of learning questions and experiences within emergent, self-organizing online communities. Pedagogically, learners should be afforded the possibility of benefiting from a mixture of asynchronous and synchronous interaction with peers who can provide content-related and social support. Issues that need to be addressed are:

- How do such self-organizing communities begin and (how) can we induce users of OpenER to form effective learning-teams within those communities?
- What are the boundary conditions needed to set-up and sustain such a community (in other words to achieve the status of well-functioning)?
- What are the characteristics of a well functioning on-line self-organizing social system?
- Is it possible to make use of already available tools developed at the OUNL such as NTool (a widget/tool for negotiation of meaning and position when working in a team) and Awareness Widget (a widget/tool that supports the formation of a good social space, social presence and personal identity through group history-awareness)?
- What are the limits of OLS? Can we evolve them to meet new requirements from emergent practices?

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