

# Open Education 2030

Contribution to the JRC-IPTS  
Call for

## Vision Papers

### Part I: Lifelong Learning

Work in progress: 9 April 2013

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## Part 1: The Winners

In this part, we present, in alphabetical order, the papers that were selected for the best paper award. The authors have subsequently been invited to participate in the first of a series of three foresight workshops on Open Education 2030, taking place in Seville on 29-30 April, 2013. Each paper is different in form, focus, content and style, but all of them raise important issues when thinking about "opening up" education.

*David Broster* argues that we all urgently need a new class of personalised, knowledge & learning management tools to help us navigate towards our future competencies. This is an ingenious and creative piece of writing in which a fictitious expert interview in the year 2030 is used to describe the voyage ahead of us, with all its chances and challenges.

According to *Stéphane Canonne* in 2030, Open Educational Resources will contribute to the individual's culture of learning based on demonstrated capability and ability. He proposes an interesting model for a Lifelong Learning culture in 2030.

The vision developed by *Isobel Falconer, Allison Littlejohn and Lou McGill*, foresees that in 2030, Learning is tailored for and controlled by individuals as they expand their knowledge, fluidly moving across learning contexts, interacting with others. This paper provides a very complete vision that draws on a range of different scientific arguments and sources to come up with a coherent and conceptually new proposal.

*Norman Jackson* argues that a high status 'EU Lifewide Development Award' will encourage, support, and recognise the personal, collaborative and informal nature of learning and do much to cultivate a culture of openness and promote the ideals of lifewide, lifelong learning. This paper provides an imaginative vision that focuses on one possible key element for Open Education 2030.

*Brian Mulligan* argues that "although Open Educational Resources and Practices, and other innovations contain huge potential to transform lifelong learning, there are unnecessary regulatory barriers, and that Competency Based Assessment is the key to removing these barriers and unleashing a wave of innovation. This argument is presented in a sound, reflective, critical, argumentative and compelling essay.

According to *Katerina Zourou* freeing up the dynamic, social component of OER will be the driving force of the future Open Education, so that Open Education will fit real learning and teaching needs and has social participation as its foundation stone. This is a scientifically sound and reflective paper that underlines the importance of multilingualism and social interaction for seizing the potential of OER.



## Reflections on Open Education Interview, Amsterdam 28th March 2030

David Broster

*We all urgently need a new class of personalized knowledge & learning management tools to help us navigate towards our future competencies.*

*Do not train a child to learn by force or harshness; but direct them to it by what amuses their minds, so that you may be better able to discover with accuracy the peculiar bent of the genius of each.*

Plato 427-347BC

**Preamble:** This interview, one of a series of twelve reflection interviews with notable policy-makers and motivators, will be published in the context of the upcoming global conference “**Learn 2030**” and the texts will be included in “Conference Track 6” which addresses the question: “**Did we once have the foresight to plan our future skills and competences – a critique of how to look ahead with a degree of certainty**”.

*Interviewer:* As you know I am holding a series of 10 interviews which will be published individually, but I will also make a synthesis of key thoughts for the foresight track at Learn 2030. To start us off, what, in your view, were the main milestones that led us to our current style of learning?

**Educationalist:** Thank you for starting with an open question. For me, the answer is very clear, and I think the current trend began in 2013-14 when, and here I give credit simply to causal serendipity. At that moment we witnessed an upsurge of new hardware tablets that had surprisingly good battery autonomy and the open android operating system. The price and timing was perfect and they were bought in masses. As a consequence people were released from the desktop for most of their compute-chores – including learning. This was the same moment in time that there was a sudden increase in the acknowledgment of open educational resources. The two combined to give impetus to what would become a new sort of paradigm for learning i.e ubiquitous - which simply means you can study “anywhere, anytime”.

*Interviewer:* So who recognised the potential coming out of this serendipitous moment ?

**Educationalist:** Almost no-one (so called) “important” at the time. Of course many researcher and liberated educationalists could see what was happening, but they were rather powerless to make their case as (at least in Europe) the Member States had total control on their curricula and teaching practices. The lack of an EU mandate to push forward creative, innovative ideas was stifling. Some countries were however experimenting and recording successes with so called *avant-garde* educational practices. Finland was particularly notable and became noticed for achieving high-scores on international metrics for educational outcomes and was also at the top of the rankings on advanced internet readiness and usage. They, before all others, saw the full potential of bringing together the huge information resources on the internet, accessible through a set of open platforms, and their educational policy makers took a gamble. Finland can be given the credit for seizing the moment by mandating their curriculum editors to fully acknowledge a new paradigm for learning. It was

the Finn's who decided to embed open educational resources, attribute credits for informal skills acquisition and to provide the necessary certainty for technical investment in new tools.

*Interviewer: So what happened next in your view?*

**Educationalist:** Finland launched a tender to develop the “Plato”, “Columbia” and “Magellan” class tools. Whoever had this notion is long forgotten but it was another of the serendipity moments in educational history. “Plato” was the tool that Microsoft and partners developed to capture “how much you know”, “Columbia” was the tool developed by Google to harness and direct search for structured, accredited knowledge in any language, in any subject and at any level. “Magellan”, of course, was the not-for-profit, open source link-up with “Wikipedia” and “Europeana” that challenged the muscle of the big enterprises and that was secretly backed by Apple. The pace of development was incredible. Within a few months free “apps” were available on all platforms. Advertising took a back-seat role and there was a “viral” take-up by students of all ages.

*Interviewer: It sounds perfect, so what was missing ?*

**Educationalist:** Well clearly policy-makers had to respond and quickly. In the EU, education ministers quickly put together a plan to incorporate some of these new tools into teaching practices at primary, secondary and tertiary classrooms. It also dawned on Ministers across the EU that formal “establishment” based education could sooner or later be supplanted by an anarchy of private and sponsored education, especially for an “upper tier” where students would effectively design their own learning paths and that they would likely continue this for process for the rest of their careers and life. So a power struggle emerged between the classic old-guard and the new educational impressionists. Industry groups then decided to acknowledge and accept the portfolio’s generated by accredited “plato-class” tools, and they published (on Plato) their in-house training projects which made them visible and index-able by Columbia- and Magellan-class tools. So the stage was set for a convergence of the tools-sets.

*Interviewer: So why was there a further delay ?*

**Educationalist:** In a word, “establishment” again bit back. A real luddite-type moment that lasted for several years. Undermining new technology was rather easy since at the primary and secondary level you could easily plant doubt in the minds of parents. Distrust and fear that you might just mould and shape your child into something regrettable or less than optimum was the main motivation used by the doubters.

*Interviewer: And in your view what was the key moment that unfroze the confrontation ?*

**Educationalist:** Undoubtedly the realisation in 2020 that you could not simply ignore the fantastic results achieved by students who had embraced “Plato, Columbia and Magellan” tools. We were also in the 3<sup>rd</sup> generation of tablet computing, the 3<sup>rd</sup> generation of the navigation tools that had now started to merge functions and provide a personal platform that expressed the competencies, value, and abilities of the whole person. The sheer weight of minds that were contributing, refining and endorsing course structures was overwhelming and the rather feeble, unjustified arguments of the “establishment”, crumbled.

*Interviewer: So what have we really achieved in the past decade?*

**Educationalist:** For me, the most important aspect is that whatever your age, competence or skill-set, you can have your own personalised, accepted and accredited status. Moreover, this is certainly not a static status since your navigator tool will guide you through the vast, existing and ever expanding knowledge banks that humankind has now built. So, starting with the choice of navigator at the age of 3 to 5, and most likely a choice made by parents is just a boot-strap. Every one of us is able in some way to some degree and we can all contribute to the community of learning. We can add our nuances of interpretation, our ways

to overcome misunderstandings, our realisations. We are now able to preserve these (usually) innermost thoughts and insights, for others to use. This adds a completely new dimension to our future potential since we can stretch us all, all the time.

*Interviewer: Thank you for your comments, I've enjoyed our exchange and your insights. What are your final comments on what has been achieved ?*

**Educationalist:** Well, of course, I can also use my navigator for fun. To explore topics I hear on the news but know little about. I can start at a low level and if I understand well, then I can increase the level until it starts to feel like “hard work – no fun” or just simply continue with a light-weight browse, and continue my fun. I do this regularly and explore obscure topics to chat with my mates in the bar. They do it also.

On the serious side, I have now captured and secured accreditation for everything I learned from the age of 5 until my current 55 years. It took a while to get accreditation for the pre-2010 stuff, but it was actually possible. I've also left plenty of information on how to go about it to make it easier for others with portfolios and backgrounds similar to mine. Right now I have a very complete digital learning portfolio that I can legitimately use to proforma into a CV, or a career history, or simply allow (with appropriate permissions), my prospective employers to browse at their leisure.

On an even more serious note. There are billions of lives of experience, out there, and accessible on the internet. Which of them are speculative, false, true? How do I segregate imagination from reality. How can I learn if I can't discriminate between fact and fiction, real and imagined, proven or scurrilous. Even worse, I need to be able to work across linguistic and cultural boundaries in order to get to the truth. Clearly the development navigator-class multilingual, search and link tools 15 years ago were crucial to help us find “stuff”. As were the learner class tools that helped to gain credit and to structure our learning process – sometimes aligned and sometimes mi-aligned to known pedagogical methodologies. It was also possible to track newly founded, emerging or risky research areas and like-minded, like-competence people to collaborate with. Lady luck, and her best friend serendipity played their part, as did the policy-makers, the industrial “muscles” and (eventually) the educational researchers. We can thank them all for getting us to the place we are now.

What puzzles a little bit is, that despite these fantastic tools and the liberation formal settings and formal institutions, we have “chosen” to maintain the “classroom” paradigm albeit in a rather modified form. I think that we are making a conscious choice to stay within a structured process that, in turn, helps formalise our thoughts and our understanding. In essence the promise of anarchy lost out, but formality got somewhat liberated. We all gained. Now we have to look at where we go next.

*Interviewer: Thank you very much.*

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*You may say I'm a dreamer  
But I'm not the only one  
I hope someday you'll join us  
And the world will live as one.  
John Lennon 1988*

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## **References:**

1. **Plato** (pedagogical & curriculum assistants)  
*A tool to guide individuals through a set of learning experiences. Based on being usable in multilingual, multicultural, multi-competence and multi-disciplinary dimensions. It is intended that this tool and its derivatives are life-long companions that record learning experiences, embody achievement, and advise on increasing level of educational outcomes. Soon after Plato.v1 a suite of tools began to evolve in a global context. Open standards emerged in terms of user-interfaces as well as well as API's to link with formal educational institutions around the globe. By 2020 these tools had evolved to their 4<sup>th</sup> generation. Evolution has now slowed which, in turn is an appreciation of maturity and acceptance.*
2. **Columbus & Magellan (OS)** (structured, accredited material searchers)  
*A class of tools that helped the user to find, retrieve and progressively index learning material. Materials are classified in terms of "factual-intensity" ranging from speculative to multiply-proven. In addition to search and retrieval the tools also incorporate the accreditation modules that enable people (students and teachers) to contribute new, modify or enhance existing materials. These tools strategically linked to known accredited resources such as Wikipedia and Europeana and were able to gain the "blessing" of academia and institutional teaching establishments.*

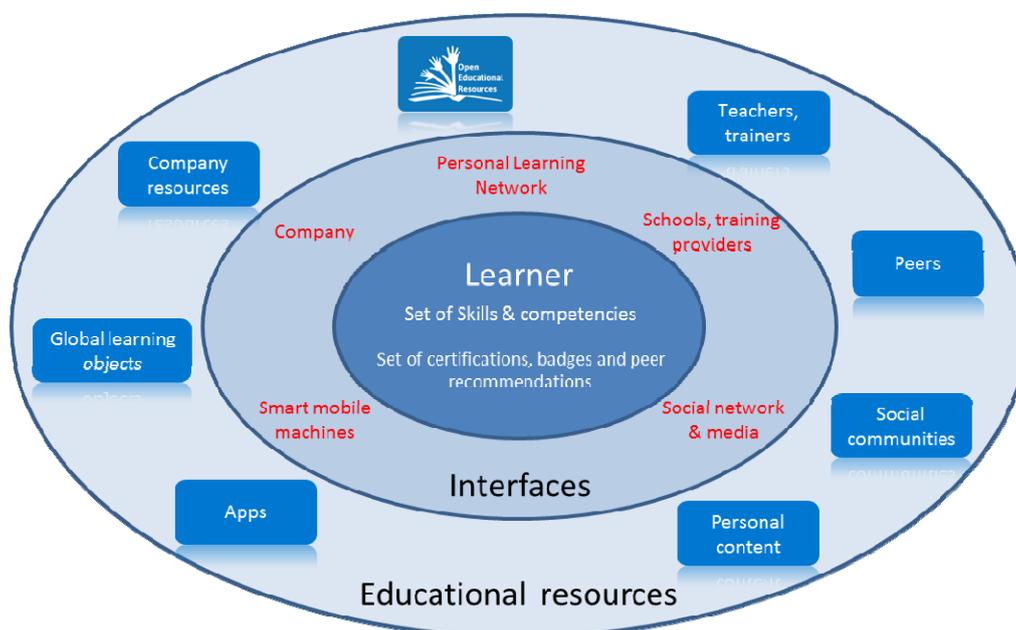
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*Imagined by David Broster 28<sup>th</sup> March 2013*



**The learning individual: Towards a culture of learning based on capability and ability**  
Stéphane Canonne

*In 2030, Open Educational Resources will contribute to the individual's culture of learning based on demonstrated capability and ability*



### **Context**

Let's imagine 2030 upon what we know today:

- In a digital society, the labour ecosystem is very flexible and changes rapidly. Individuals are likely to work for a series of employers, potentially remotely and at the same time. The labour market is organised upon the “skills on demand”.
- The employee performance is continuously quantified through workforce analytics system. The demonstration of capability and ability is preferred to diploma or to any etiquette.
- The knowledge is available and free. Educational contents and resources are massive. Information flows everywhere.
- Boundaries fade away : public/private, personal/professional, home/office, real/virtual, formal/informal, global/local bounds are mixed up.

In this context, **the learner has to dedicate 20% of his time renewing his skills every year to remain employable**, striving to fit with the skills required by the labour market dynamics.

He is learning anywhere, anytime, on demand, through any channel.

### **He develops his own culture of learning.**

Open Educational resources are just a brick of it.

### **Learner**

Learning is learner centric, personalised. Each individual is empowered to set his own learning strategy in his ecosystem (company, social groups, schools, training providers...). He knows that this ability to organise his way of learning is essential to his professional and personal success.

Fragmented learning is preferred on a daily basis even though long time immersive learning is occasionally opted.

New skills have emerged as distinctive ones: Collaboration and social intelligence, critical thinking, creativity, adaptability, computational thinking, cross cultural communication, ability to filter information...

The learner is steadily looking for developing a distinctive set of skills and competencies to be capable of delivering specific tasks required by the labour market, and demonstrated by a list of qualifications, certifications, badges, peer recommendations and achievements.

### **Interfaces**

Among the ocean of educational resources and information, the revolution has come from the “interfaces” that discriminate and filter the educational resources. They act as windows to learning content and experience :

- Company : corporate academies, “learning enterprise”
- Schools, training providers
- Social network / social media.
- Personal learning network (PLN), expert aggregator matching the learning objectives with the appropriate content. Ultimately, they propose learning paths.
- Smart mobile machines providing the “on time” knowledge : glasses, watches, smart phones, tablets, connected cap or shoes...

### **Educational resources**

Open educational resources coexist among other contents:

- Company resources (corporate programs, Know-how, processes,...)
- Global learning objects - Private resources – in the cloud
- Personal content (personal learning experiments, stored information...)
- Social communities
- Peers (blogs...)
- Teachers, trainers, coaches
- Apps
- ...

The OER that have survived from the last 10 years are the ones bringing a distinctive capability or ability valued by the labour market, meaning:

- High quality content
- Highly technological including new media
- Fun, dynamic, exciting and game based
- Highly collaborative, open to editing, peer to peer approaches
- Linked to “systems” assessing the individual skills. These expert assessment systems have made enormous progress since the quiz. Remote simulation, immersive test validated by neurosciences, they bring a guarantee for skill acquisition
- Globally recognized through specific certification or metrics similar to the TOEIC in foreign English today or the PMP in project management

The OER material is free. However, it is built upon a “freemium” model where assessment and certification is charged.



## **Fluid learning: vision for lifelong learning<sup>1</sup> in 2030**

Isobel Falconer, Allison Littlejohn, Lou McGill  
Glasgow Caledonian University, UK

*Learning is tailored for and controlled by individuals as they expand their knowledge, fluidly moving across learning contexts, interacting with others.*

### **1. Fluid learning**

This paper provides a vision of what we term ‘fluid learning’ through which autonomous learners make choices about their own learning. This vision is critical because it equips European citizens to live in a global context where knowledge and work is changing so rapidly that people have to learn continually. Fluid learning is suited to a world that has seen a radical change in cultural perceptions of learner agency and learner-teacher roles, associated with changes in technology. After completing compulsory education, the focus of each learner moves from learning pre-defined knowledge to filling gaps between areas of knowledge, integrating different areas of expertise, as well as learning new knowledge. People do not turn automatically to formal institutions for large blocks of learning. Instead they consider it natural to make use of open learning resources and open courses, making their own decisions about what to learn, when and how. Learners naturally employ open learning practices, creating new knowledge for future learners to benefit from. They expect to contribute to the learning of others as well as learning themselves, viewing themselves as the experts in their own situation. In some cases they may elect to take a short formal course, but this is always for a specific reason rather than as a cultural norm. Rather than managing multiple identities in the different groups/communities to which they belong, they see their unique identity as a unifying factor that integrates their activities in various groups, including work and leisure groups that they move easily between. In doing so they accrue new knowledge, integrating it with their current understanding, such that their expertise changes dynamically to match their current needs. The vision requires significant cultural change in European society by 2030.

Fluid learning is a vision for a society in which:

- *The learner is in control of choices over his/her learning.* Learners are able – both culturally and cognitively – to structure and tailor their own learning, moving fluidly between learning contexts to fit their individual needs. Open learning practices are commonplace. Intelligent, networked systems enable learners to operate across networked spaces, serendipitously finding others, or being alerted to others with similar motivations and needs. Open learning practices are commonplace. This condition becomes critical when learners, rather than institutions, structure their own learning, particularly in social contexts, and through connections with different communities and networks.

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<sup>1</sup> Lifelong learning here is viewed as learning throughout life, from formal, compulsory education to all forms of learning throughout life.

- *Learning contexts are continually in flux.* Learners dynamically change their networks to either strengthen ties or strike out in new directions according to their needs. Learners understand how to move in and out of groups and networks fluidly, developing close ties in tightly knit groups, while recognising a critical aspect of learning is extending links to new people and knowledge. Hence, their connections change over time.
- *Organisations that provide formal education radically open up.* These organisations influence how people think about learning through strategic commitments to openness, reforming and developing new infrastructures.
- *Other types of organisations increase involvement in learning:* private, public, professional bodies and third sector.
- *As learning broadens so too must assessment and accreditation.* Assessment is performed by a range of different types of people, including peers and experts in companies, not just by teachers. Open technologies offer new means of accreditation through expert consensus and/or online activity-tracing.

Enabling the European Commission to meet this vision by 2030 will be a considerable cultural challenge, requiring radical change in how learning is viewed by a range of groups and organisations in Europe.

## 2. Trends in lifelong learning

Our vision of fluid learning has been shaped by trends, of which the following are the most relevant:

- 1 **Increasing numbers of lifelong learners** Over past decades there has been a rapid expansion in the number of active lifelong learners across Europe. There are numerous contributing factors: active aging increasing the number of older learners; the need for continual learning at work, extending workplace learning; the inclusion of previously disadvantaged groups, such as disabled people, in lifelong learning.
- 2 **Ever-increasing opportunities for lifelong learning** The proliferation of opportunities for lifelong learning is most visible through the increase in the number and range of open educational resources, open courses, escalation of ‘edutainment’, proliferation of networked communities for lifelong learning alongside a scaling up of networked technologies.
- 3 **Expanding openness** Boundaries (geographic, disciplinary, sectoral) are becoming difficult to identify and shift constantly. The opening up of knowledge intensifies this shift, changing social behaviour, work, learning patterns and mindsets.
- 4 **Open knowledge, data and analytics** As people collaborate in networks, knowledge is captured and exchanged more easily than before. Knowledge is released as articles, blogs, podcasts, images, datasets, geotags or bio-information, shifting the balance from consumption to the co-creation of knowledge.
- 5 **Specialisation of knowledge** As boundaries break down, knowledge has become more specialised. Cross-boundary translation of knowledge has created new knowledge domains.
- 6 **Broadening of what we understand as learning** Our understanding of what constitutes learning, has broadened from formal, structured events to unstructured, serendipitous, learning opportunities.
- 7 **Demonstration of competence** Historically, examination by “experts” provided a low-resource means of measuring educational outcomes. Recognition of the need for assessment to be authentic, the ability of systems to track performance, and of learners to assess peers, is changing the nature of assessment.

### 3. The Vision - Learner agency: expansive learning

Fluid learning assumes that by 2030 most learners will be able - both culturally and cognitively - to structure their own learning. Ideally, school learning prepares learners for fluid learning, and their participation in fluid learning communities allows practices to be transferred to others<sup>2</sup>. In structuring their learning, learners or groups move fluidly between individual (solitary) or social environments and between structured or non-structured settings.

Fluid learning can be understood using Engestrom's (1987) model of expansive learning. The four basic, expansive steps each learner undertakes includes:

1. Analysis of the current situation and why it no longer meets their needs.
2. Transforming the learning approach.
3. Implementing a new learning approach.
4. Reflecting on the new practice, consolidating and spreading it.

Expansive learning provides a relevant conceptual basis, because it emphasises the transformative agency of each learner as he/she moves from one learning context to another, as illustrated in the next section.

### 4. An illustration of fluid learning: the creative writing group

*The year is 2030. Networked technologies and internet access are ubiquitous. Open resources, courses and knowledge are abundant. Cultural and practice change has enabled learners to take control of their learning, structuring and expanding their learning pathways and moving fluidly from one learning context to another.*

Amelie, Berndt, Carla and Dominic meet weekly in a French creative writing group. They share an interest in learning to write poetry, but their motivations for joining the group are different. Amelie and Berndt have been encouraged to join by their employer, who sees the heterogeneous and diverse group as a more effective means than in-house training days to enhance their report-writing skills. Carla has recently moved to France in search of work; she believes that her social interaction with the group, and the writing she produces, will help her learn French and enhance her job prospects. Dominic aspires to make a name for himself as an author now he has retired. For him the writing is an end in itself.

The learning group was initiated through an online system that connects learners with similar interests. Their meetings, and activities, have been based on a course of open learning resources. The learners restructured elements of the online course to suit their learning needs. They are now *analysing their current situation, identifying to what extent it no longer meets their needs*. Carla initiates a discussion of their learning activity to date, acting as an informal group mentor. Some aspects have worked well, and the group agrees that they will continue with these. The group makes suggestions as to how the resources themselves could be improved and Amelie and Berndt volunteer to *transform the learning approach* used by the group. They see the relevance of open resource-authoring to the development of their writing skills and volunteer to develop the resources jointly and contribute them back to the wider community.

Meanwhile Berndt observes that colleagues have been promoted on the basis of peer endorsement, so, through recommendations from an intelligent system, he *implements a new*

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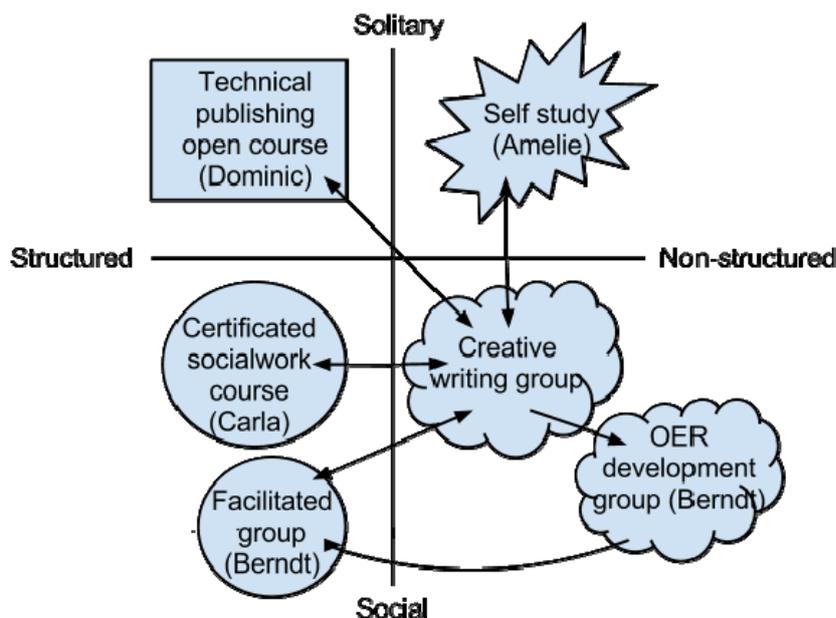
<sup>2</sup> Currently within 'schooled societies' learners tend to rely on being taught rather than engaging in active learning (Billet, forthcoming).

*learning approach*, joining an open resource development group that provides endorsements for his contributions. He finds that while the group can provide the evidence he anticipated – in ways that work well for most members - he, as a person with Autism Spectrum Disorder, needs more structure. He moves to a facilitated group offering micro-credits which supports his need for structure.

Dominic feels ready to publish his poetry. However, while writing to the web is an everyday activity for all, quality publishing that will make his work stand out is sophisticated and his technical skills are insufficient. He believes he will gain the skills faster if he enrolls on a course led by an experienced publisher. His personal recommender system suggests a 12-week open course with weekly videos and publisher tracking that provides what he needs. Activity-tracing is used as a learning aid and for authentic assessment. He *implements the new learning approach* and is able to help Amelie and Berndt with technical aspects of their resource development.

Carla, *reflecting on her new practice*, wants to share her experience and newly developed language skills, in a job that will help people who are moving countries to work. She realises the next step is a certificate of professional practice and for this the Social Workers Institute stipulates a practice-based course. Assessment is based on observation of her practice, both face to face and traces on the web. She suggests to the writing group that a good way of enhancing their skills further might be to run a monthly writing club for socially disadvantaged people - providing a context for her professional practice, and further recognition for all of them. Over time her network changes as she links with other relevant learners.

The group operate within an inherently unstructured but social learning environment, fostered by cultural acceptance of open learning practices. However, the expansive actions they choose, take them to learning experiences in different contexts. They may have reasons for choosing to move temporarily into a more structured context: Berndt does so because of special needs; Carla requires professional certification; and Dominic believes it offers an efficient route. Their choices are illustrated below:



**Figure 1: Movement of active learners across diverse learning contexts**

In terms of the four expansive steps described in section 3:

1. *Analysis of the current situation* - The group recognised that they had reached the limits of the resources they were using, that the learning approach was ineffective in some ways, and that, as well as group needs, they had individual learning needs.
2. *Transforming the learning model* - The group (or, on occasion, individual learners) decided which aspects of the current model to keep, and how to expand the process to bring in new actions.
3. *Implementing the new model* - For various reasons each member of the group explores a new learning context, and each brings new actions into the group learning activity.
4. *Reflecting on new practice* - The group reviewed and made modifications to their actions.

## **5. Achieving the vision: challenges and tensions**

Although trends in lifelong learning are evident, the outcome of their interaction with each other and society by 2030 is unpredictable. Technology will have evolved by 2030. Change will be decided by the way in which societal and technological tensions, already evident, are resolved. The resolution may be more, or less, favourable to the cultural acceptance of learner agency crucial to fluid learning. This section outlines some of these tensions:

### **1 Lifelong learners may not be able to structure their learning**

The narrative illustrates how learners select resources for specific learning needs, and, learn through serendipitous connections. Planning for learning and understanding how to integrate and move between different sorts of learning opportunities is a feature of fluid learning. Currently learners in European society are not equipped to structure their own learning effectively (Littlejohn et al, 2012). Even in situations where learners are given the freedom to plan a learning pathway, we find that they do not always want to take it (Milligan et al, submitted). There are a number of possible reasons: lack of confidence can be one, but even confident learners may choose to surrender their autonomy to a formal course. Another reason can be the cultural expectation that learning should be directed by an instructor, rather than the learner (Billet, 2013). Thus, preparation as lifelong learners requires a shift in perspective within early formal education and beyond.

Learners have to be capable of expanding their own learning, understanding why it is vital to move between learning contexts. They have to have confidence and ability to structure their own learning or, where appropriate, elect to participate in formal education. Radical change within school systems are needed such that, by the end of compulsory education, learners are able to structure their own learning (Facer, 2009). Instructors should focus on helping learners prepare to learn throughout their lives, rather than preparing them with information or enculturation into a discipline (*ibid*). Adults who have already completed formal education can be mentored within fluid learning communities to help them develop as autonomous learners. Both these scenarios are advanced through *introduction of diverse, authentic learning opportunities in schools where teachers or mentors encourage learners to take control of their own learning. Critically, schools and universities have to change the metrics by which they are measured to include measurement of learner autonomy.*

### **2 Standardisation of learning restricts the broadening of what we understand as learning**

The learners in the narrative choose what, when, and how, to learn. This flexibility in choice runs counter to the trend in standardisation to facilitate mobility across Europe. A move too far in the direction of imposed standards could hinder learner agency. Currently educational institutions hold a pole position in cultural definitions of learning, to the extent that in situations, such as the workplace, where learners frequently do plan their own aims and the actions needed to achieve these, the activity is often not recognised as “learning”. Thus the

recognition of what constitutes learning needs to be broadened to encompass activity outside formal educational institutions if learners are to recognise that this is what they are doing and gain the corresponding confidence in their ability to do it. Organisations that support formal learning must be encouraged to take a wide view of their place in the learning ecosystem (McGill et al, 2013). This may require changes in policy and legal frameworks. *European Agencies could facilitate dialogue across private, third sector and public agencies (including formal education) to influence the development of cross-sectoral and cross-national frameworks aligned with societal changes. All types of organisations should be encouraged to consider their contributions to societal learning, triggering a re-evaluation of inter-relationships.*

### **3 Current accreditation processes may restrict authentic and flexible assessment**

The narrative illustrates the need for assessment to be more authentic for fluid learning. There is little point in assessing memory of factual information since this is readily and openly available - what matters is one's ability to practice effectively, and this is what should be assessed. This leaves unspecified the answer to the open question of who does the assessment - an institution, a professional body, a peer group, or the community – and how is this accredited (Knight, 2013). Assessment and accreditation has to be recast as integral to learning events. *Holistic assessment processes can be implemented through inclusion of a broader range of organisations in learning, capitalising on the opinions of peers and experts as to how well learners are expanding their competence through a combination of peripheral participation and coaching* (Eraut, 2004).

### **4 Open access may destabilise closed organisations**

For the creative writing group the ability to work across boundaries routinely and understand how to create resources that will be used by unknown groups of people in unseen ways is critical. Open access to resources could be problematic if the educational institutions that currently largely provide such resources – retain or adopt closed protectionist policies which may be undermined by openness (McGill et al, 2013). Broad elements of society (business, professions, individuals) need to prioritise learning and assume the responsibility for providing open resources (*ibid*). *Formal education organisations across the EU should continue to open up knowledge, resources and courses to a wider group of learners by linking their strategies to a collaborative strategic vision of lifelong learning. Viable funding and business models will have to be developed and tested.*

### **5 Learning analytics may continue to focus on administrative rather than learning processes**

The learners in the creative writing group create new knowledge as artefacts and as user traces. These objects and traces are an external expression of their learning that can be analysed to gauge their progress. In 2013, learning analytics is in its infancy and tends to focus on the administrative processes (eg learner dashboards), rather than learning. *For learning analytics to become significant as a learning aid, system design has to take a quantum leap and incorporate intelligent analysis based on Artificial Intelligence.*

### **6. The learner in society 2030: call to action**

Taking forward the vision requires a radical change in cultural perceptions of learner agency and learner-teacher roles, associated with changes in technology. European Agencies have a key role to play in facilitating and supporting a vision which depends on increased collaboration across sectors and national boundaries, and on meaningful conversations between learners and formal education providers. Any vision for Lifelong Learning across Europe is inevitably fraught with challenges around diverse social, economic and political

systems, which may or may not support individuals' autonomy, an essential principle for successful fluid learning.

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## EU Lifewide Development Award

Norman Jackson

*A high status 'EU Lifewide Development Award' will encourage, support, and recognise the personal, collaborative and informal nature of learning and do much to cultivate a culture of openness and promote the ideals of lifewide, lifelong learning.*

### EU Lifewide Development Award

#### The Vision

A credible, high status EU 'Lifewide Development Award', open to all EU citizens, that recognises through Open Badges, individuals' learning, development and achievement through their lifewide experiences

An open Award that engages with the vision that personalisation, collaboration and individualisation will be central to learning in the future

An open Award that is valued by employers, educational institutions and community organisations

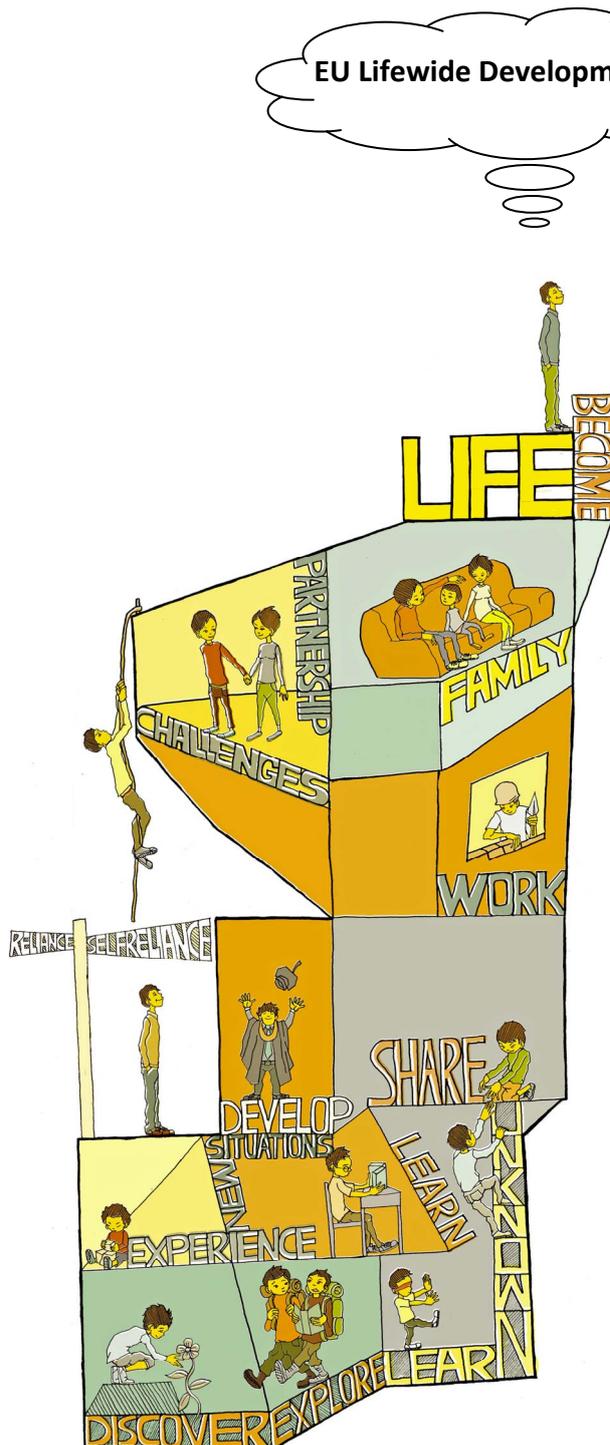
An open access technology-enabled infrastructure that facilitates an EU-wide mentoring scheme and fosters a community of lifewide learners

An EU-wide community of mentors that is open to any EU citizen willing to volunteer their time, to act as 'learning partners' supporting lifewide learning across the generations

A European society that understands and values *lifewide* learning throughout the lifecourse and embraces the ideals of lifewide education

EU citizens that are better prepared for a lifetime of self-managed learning and self-development in an ever changing, challenging and disruptive world, who are open to learning through their life experiences and open to sharing their learning through supportive and productive learning partnerships

An EU Lifewide Development Award would do much to cultivate a culture of openness and promote the ideals and practices of lifewide lifelong learning and education, and 'knowledge socialism'.



## Europe 2020 strategy

acknowledges that a fundamental transformation of education and training is needed if Europe is to remain competitive, overcome the current economic crisis and grasp new opportunities.

The strategic framework for European cooperation in education and training recognizes that education and training have a crucial role to play in meeting the many cultural, socio-economic, demographic, environmental and technological challenges facing Europe and its citizens today and in the years ahead. In 2009 EU DG Education and Culture commissioned a foresight study aimed at visualising the Future of Learning<sup>3</sup> the overall vision emerging from the study is that

**personalisation, collaboration and informal learning will be at the core of learning in the future. The central learning paradigm is characterised by lifelong and lifewide learning and shaped by the ubiquity of Information and Communication Technologies (ICT).**

The big question is **how do we prepare and enable EU citizens to inhabit this future world** in ways that are relevant, meaningful, interesting and fulfilling?

Encouragement and practical support for lifewide learning and its recognition as a valuable developmental asset provides one possible solution to how we might bridge the gap between the current learning and education paradigm and the future paradigm outlined in the Foresight report. This paper outlines one possible way in which lifewide learning and education might be promoted across the EU drawing ideas and inspiration from two small-scale projects that have been undertaken in the UK in the last four years. The first project involved development and implementation of a Lifewide Learning Award at the University of Surrey<sup>4</sup>. The second is the current project of the Lifewide Education Community to develop an open-access 'Lifewide Development Award'<sup>5</sup>.

## Recognising lifewide learning

If lifelong learning defines individuals learning enterprises at different stages of their lifecourse from 'cradle to grave', lifewide learning adds important detail by recognising that most people, no matter what their age or circumstances, simultaneously inhabit a number of different spaces - like work or education, being a member of a family, being involved in clubs or societies, travelling and taking holidays and looking after their own wellbeing. So the *timeframes* of lifelong learning and the multiple *spaces* of lifewide learning intermingle and who we are and who we are becoming are the consequences of this intermingling and our will and agency<sup>6</sup>.

We live out our lives in these different spaces and we have the freedom to choose which spaces we want to occupy and how we want to occupy them. In these spaces we meet and

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<sup>3</sup> Redecker, C., Leis, M., Leendertse, M., Punie, Y., Gijsbers, G., Kirschner, P., Stoyanov, S. and Hoogveld, B. (2011) *The Future of Learning: Preparing for Change*. European Commission Joint Research Centre Institute for Prospective Technological Studies EUR 24960 EN Luxembourg: Publications Office of the European Union <http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=4719>

<sup>4</sup> Jackson, N.J. (ed) (2011) *Learning for a Complex World: A lifewide concept of learning, education and personal development*. Authorhouse.

<sup>5</sup> <http://www.lifewideaward.com/>

<sup>6</sup> Barnett, R. (2011) Lifewide education: a new and transformative concept for higher education. in N. J. Jackson (ed) *Learning for a Complex World: A lifewide concept of learning, education and personal development*. Authorhouse.

interact with different people, adopt different roles and identities, and think, behave and communicate in different ways. In these different spaces we encounter different sorts of challenges and problems, seize, create or miss opportunities, and aspire to live and achieve our ambitions. In these spaces we create the meaning and purposes that is our life and play our part in being a citizen of the world.

Because we occupy so many different spaces simultaneously we have to learn how to manage our life, juggling and prioritising competing and conflicting demands.

For example, depending on our age and circumstances, in the space of 24 hours we might inhabit spaces relating to work, the classroom or self-study. We might care for a child or elderly parent, look after our home or garden and go shopping. We might go to a pub to socialise with friends, travel somewhere, play some sport or a musical instrument, participate in a community activity and do any number of things in the virtual spaces we inhabit through our smart phones, computers or other devices.

We take our everyday learning for granted in these spaces until we look back and think about what we can and can't do, usually when we are confronted by an unfamiliar situation. In this way our learning and capability accumulates imperceptibly over time. Each of our daily activities has its own rhythm; fast and slow time jostle and compete and we have to manage our time, determine priorities and fulfil our multiple roles in an appropriate manner. Lifewide learning is a fact of everyday life and it continually helps us develop capability to manage ourselves and our lives, look after the people that matter to us, and play our role in society.

It is through our lifewide activity and experiences that we learn to manage our busy lives, cope with the unexpected, adapt to situations as they emerge and transfer our understandings and capabilities between different contexts, and use this self-knowledge to imagine and plan for the future.

**Personalisation, collaboration and individuals' informal learning are already with us in our everyday lifewide learning. The educational challenge is to encourage and enable people to take advantage of this resource that is open to everyone to use for their own learning and development. Our argument is that the learner of the future should understand and master their own lifewide learning in order to be an effective lifelong learner.**

### **EU Lifewide Development Award**

One solution to this challenge is to create an award framework that could be used across the whole of the EU to:

- raise awareness and the level of understanding of the meaning of lifewide learning
- encourage citizens to use their own lives as resources for learning, development and achievement
- value individuals' commitment to their own development
- encourage the habits of personal development planning and reflective learning
- value and formally recognise individual's learning and achievements

### **A Lifewide Curriculum**

When designing an academic curriculum teachers begin with *their* purposes and the outcomes *they* want students to achieve and what *they* will assess. Then *they* think about the content

*they* want students to learn and *they* design the process and select the resources students will use to learn. Finally, *they* assess what *they* believe counts as learning and students' perceptions of what really matters to them don't count at all!

Lifewide learning turns this way of designing education on its head. Design is based on the learner's own life and *their* purposes. It honours *their* personal ecosystem for learning and developing themselves. The learner is viewed as the designer and implementer of *their* own integrated and meaningful life experience. An experience that incorporates *their* formal education as one component of a much richer set of experiences that embrace all the forms of learning and achievement that *they* believe are necessary to live a meaningful and fulfilled life.

We start with the learner's purposes and how they want to develop themselves to achieve their purposes. These may not be clear to them but the process of lifewide learning is the way in which they come to understand them better. Being clear on purposes allows learners to focus their will.

The learner determines what they need to know and they draw on their own experiences and the people they interact with as their main resource for learning. They chose what evidence they will provide to demonstrate their success in achieving their goals, aided by some general criteria, and claim achievement against their intentions. Independent assessment is concerned with making judgements of good enough informed by knowledge of the learners' commitment to their own development. The process and validation of learning is aided by learning partnership<sup>7</sup> between a learner and her mentor.

Lifewide learning draws on a range of theorists from the fields of education, particularly adult education, developmental psychology, social and situated learning and anthropology<sup>8</sup>. Theories that are constructivist, humanist, developmental, experiential, situational and social in their outlook are readily assimilated into frameworks, tools and processes for encouraging, supporting, explaining and validating the phenomenon of lifewide learning.

### **An open learning process**

To illustrate what an award might look like we can draw on the experience of piloting such an award in the UK at the University of Surrey<sup>9</sup> and Lifewide Education's community-based Lifewide Development Award <http://www.lifewideaward.com/>

- 1 To gain access to the Award learners simply complete the Registration Form which can be downloaded from the website declaring their commitment to the lifewide learning process for one year.
- 2 After reading the on-line Guidance supported by on-line video tutorials, learners prepare their lifewide activity map (LAM) and personal development activity plan (PDAP)

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<sup>7</sup> Baxter Magolda, M. B. (2004) Learning Partnerships Model: A Framework for Promoting Self-authorship. In M. B. Baxter Magolda and P. M. King (eds) *Learning Partnerships: Theory and Models of Practice to Educate for Self-authorship*. Sterling, VA: Stylus, pp. 37–62).

<sup>8</sup> Jackson, N.J. (2012) Lifewide Learning: History of an Idea in N J Jackson and G B Cooper (eds) Lifewide Education e-book available at <http://www.lifewideebook.co.uk/conceptual.html>

<sup>9</sup> Jackson, N.J., Betts, C. and Willis, J. (2011) Surrey Lifewide Learning Award a Learning Partnership to Support Lifewide Learning in N.J. (ed) (2011) *Learning for a Complex World: A lifewide concept of learning, education and personal development*. Authorhouse.

- 3 A mentor will be assigned to each learner and they will have their first on-line conversation with the learner to consider their lifewide activity map and personal development plan.
- 4 Throughout the year the learner participates in self-determined and self-managed activity guided by their PDAP using the opportunities they have in their lives. They record their experiences and reflections on what they have learnt in an on-line diary or blog. Learners are expected to make an entry every week and it can be text, audio, video or image based. This process is intended to help learners appreciate their personal learning ecologies<sup>10</sup> and develop their capability for narrative learning<sup>11</sup>.
- 5 Learners are provided with their own website building tools such as weebly.com and one of their initial tasks is to design and build their own website to host their blogs and the artefacts of their learning. In this way, regardless of previous experience, learners develop their presence in the digital world. Example websites are provided to demonstrate the ways in which learning, personal development and achievements might be represented and communicated. The process is intended to stimulate learners' creativity and learners may represent their learning through text, images, audio- or video-based artefacts.
- 6 Every two weeks the mentor checks their mentee's website, observes their updates and offers commentary, encouragement and questions to help them gain deeper insights into their own learning and planning.
- 7 At three points in the process the mentor has a face to face conversation on-line, through a video chat room provided through the Award. These conversations check progress towards the learners own learning goals, consider the nature of lifewide learning - personal, informal and collaborative, and feed forward into learners development plans. Conversations can be recorded and provide part of the evidence base in the learners portfolio.
- 8 Towards the end of the year they are registered for the award, learners summarise what they have learnt and how they have developed in a written account, audio or video story or annotated scrapbook. Their insights are shared with their mentor whose role at this stage is to evaluate and validate the learner's self-knowledge.

## Open Badges

The Award would utilise the Open Badges idea currently being developed by Mozilla<sup>12</sup>. Badges are digital tokens that appear as icons or logos on a web page or other online venue. They signify accomplishments such as completion of a project, mastery of a skill, or gaining experience and developing through the process.

As records of achievement, badges can recognise the completion of projects within a traditional educational programme or acknowledge experience gained through personal experience, community interaction and contribution, online learning venues, or work-related projects. The idea that badges are 'open' is the fundamental principle on which the system is built. The infrastructure is open (anyone can become an issuer) and the technology is open

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<sup>10</sup> Baron B (2006) Interest and Self-Sustained Learning as Catalysts of Development: A Learning Ecology Perspective. Human Development 49:193–224 Available on-line at <http://life-slc.org/docs/barron-self-sustainedlearning.pdf>

<sup>6</sup> Goodson, I.F. Biesta, G, Tedder, M. and Adair. N (2011) Narrative Learning Routledge

<sup>12</sup> Open Badger <https://github.com/mozilla/OpenBadger/wiki>

(open source). Users control their own data and the system permits individuals to create their own badges which an issuer can endorse.

Some of the ways in which badges could add value to the strategic personal development process that underlies the Award include:

*A taster:* someone who is considering undertaking the LDA might participate in an introductory exercise to give them an idea of what it's like.

*A motivational force* in the early stages of the LDA to help learners appreciate the progress they are making

*An ongoing motivational force:* eg for completing activity eg forum contributions over 10 weeks

*A learning process:* designing and justifying a badge is a learning process in its own right

*A unique expression of personal learning, development and achievement:* demonstrating unique pathways, experiences and capabilities that they had developed through the LDA.

*A means of recognising achievements if a learner does not complete the LDA*

EU involvement in an Open Badge system through a Lifewide Development Award would rapidly build credibility and currency in this innovative way of valuing and recognising lifewide achievement. Current ideas for Open Badges lack the strategic framework for planning and reflecting on personal development and encouragement for narrative learning, that a Lifewide Development Award would provide.

## **Evaluation of learning & development**

There are two levels of evaluation.

### *Self-evaluation by learner*

The learner is responsible for evaluating and explaining how they have developed through their self-directed learning process in their blog, synthesis account and conversations with their mentor

### *Evaluation by mentor*

The mentor will complete a report outlining his/her view about the evidence of personal development provided. After considering:

- Their commitment to their own development through self-directed and unplanned activities and their commitment to the learning process
- Their self-awareness - the ability to recognise their own learning and development through their experiences
- Their ability to explain and communicate their self-awareness of learning and development using the tools provided or your own tools – their learning narratives
- Their contributions to the community of lifewide learners through the on-line forum or other means

## **Accreditation**

National or regional Lifewide Development Accreditation Panels would consider the report and recommendations of the mentor.

If sufficient evidence is provided the EU Lifewide Development Award will be made to the participant and they will be entered on the register of recipients of the Award.

If the mentor is not able to form a firm judgement a second opinion will be sought from another member of the panel.

If there is insufficient evidence of development and commitment, the participant receives feedback from their mentor and they have the opportunity to continue the personal development process until they are ready to make a new submission.

### **Implementing an EU Award**

While not underestimating the work involved in creating an award and building the supportive infrastructure, given adequate resourcing, political backing and buy in from education, business and community organisations, it should be possible to develop and implement the Award over a 10-15 year period to achieve a 2030 goal of an EU Lifewide Development Award.

Initial development and piloting over 3-5 years might involve a small consortium of interested partners. Learning gained would inform the next stage involving larger groups of partners added at 5y and again at 10y until participation is EU-wide by 2030.

### **Open Education**

Open Education<sup>13</sup> is underlain by values and principles like freedom to participate, open access to resources and support which are free, meaning no or insignificant cost to the user. Resources are provided through open licenses that give everyone permission to reuse and modify them so that they can be adapted to local circumstances. The principal resources being offered through an EU Lifewide Development Award are ideas, tools, frameworks, guidance and perhaps learner narratives of learning.

Free and open sharing increases access to education and knowledge for anyone, anywhere, anytime. It allows people to make changes to materials or to combine resources in new ways to build something new. The resources provided would be available for anyone to adapt and use in their circumstances.

Open Education incorporates free and open learning communities, educational networks, teaching and learning materials, open textbooks, open data, open scholarship, open source educational tools and on and on. Open Education gives people access to knowledge, provides platforms for sharing, enables innovation, and connects communities of learners, educators and mentors.

But new concepts of educational openness are evolving. New forms of technological-enabled openness are laying the foundation for Web 3.0 universities<sup>14</sup> which utilise web technologies like social networking, blogs, wikis and user-created content and media to create new models of openness to promote 'radically decentralized, genuinely interactive, and collaborative form of knowledge sharing that can usefully serve as the basis of 'knowledge cultures' [and 'knowledge socialism']'. The proposal for an EU Lifewide Development Award aligns well

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<sup>13</sup> [http://en.wikipedia.org/wiki/Open\\_education](http://en.wikipedia.org/wiki/Open_education)

<sup>14</sup> Peter M A., Gietzen G and Ondercin D. J. (2012) Knowledge Socialism: Intellectual Commons and Openness in the University in R Barnett (ed) The Future University: Ideas and Possibilities New York Routledge

to this conceptual view of openness, although it shifts the focus from institution (university) to community as the P2P foundation for knowledge creation and sharing.

### **Open & Openness: learners' perspectives**

The approach being advocated in this paper has the potential to extend the concept of open education from the resources and support given to individuals to their own stances and orientations to their learning, development and achievement.

Lifewide learning encourages learners to be open with their plans for their own development, and in P2P mode, to share these with learning partners (mentors) in order to gain feedback to open new possibilities (feedforward). Learners' embodiment of openness extends to their sharing of experiences, challenges and insights with other members of the lifewide learning community in order to seek help, progress or share their understandings.

Lifewide learning encourages learners to become open in their learning stances, and be prepared to maximise learning opportunities whenever and wherever they are and in whatever modes they present themselves. Characteristically, lifewide learners display an openness to their experiences (openness to self) they are willing to explore new avenues and are willing to take risks (to be explorative<sup>15</sup>) to venture into unfamiliar contexts and situations - a necessary condition for learning and creativity. They are open to all forms of knowledge and ways of knowing throughout life (epistemological openness). And they are open to sharing their self-knowledge with others who act as partners in their learning (communal and collaborative openness).

The approach being advocated also has potential to open more opportunity for intergenerational learning as possibilities increase for involving older learners in learning partnerships with younger learners. An EU Award would do much to cultivate a culture of openness in the ways outlined above and promote the ideals and practices of lifewide lifelong learning and education.

### **Inspiring Vision**

The European Commission has called for Visionary Papers on the future of “Open Education” and the use of OER. The vision offered here is of a world that values lifewide learning and education and gives this meaning and substance through an EU Lifewide Development Award. We might ground this vision in the enlightened and inspiring words of Eduard Lindeman writing in 1929.

A fresh hope is astir. From many quarters comes the call to a new kind of education with its initial assumption affirming that education is life - not merely preparation for an unknown kind of future living. Consequently all static concepts of education which relegate the learning process to the period of youth are abandoned. The whole of life is learning, therefore education can have no endings.<sup>16</sup>

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<sup>15</sup> Law, R. (2012) Explorativity': implications for lifewide education and lifelong-lifewide learning and personal development in N J Jackson and G B Cooper (eds) Lifewide Education e-book available at <http://www.lifewideebook.co.uk/conceptual.html>

<sup>16</sup> Lindman, E. C. (1926) *The Meaning of Adult Education* New York: New Republic. Republished in a new edition in 1989 by The Oklahoma Research Centre for Continuing Professional and Higher Education.

It would be a fitting tribute to this visionary adult educator if an EU Lifewide Development Award could be implemented on the centenary of this idea.



## Opening Education through Competency Based Assessment

Brian Mulligan

*Although Open Educational Resources and Practices, and other innovations contain huge potential to transform lifelong learning, there are unnecessary regulatory barriers, and Competency Based Assessment may be the key to removing these barriers and unleashing a wave of innovation.*

There are two things you need to innovate. Competition and the freedom to innovate. There is no shortage of innovation in teaching and learning in the world today and Open Education Resources and Practices are among the most significant of these. Indeed, access to information is now so easy that the best of these practices can spread very rapidly. However, the surprisingly slow rate of change has shown that there are barriers, and one of those is the regulation of teaching and learning methods. Competency Based Assessment has the potential to break through that particular barrier by giving both students and providers much more freedom to choose their preferred learning methods. This will lead to a huge increase in competition and innovation in higher education and in particular, lifelong learning within higher education, that will both improve standards and drive down costs. In such a scenario of massive disruption it would be unwise to try to predict what the outcome would look like in 2030, except to say that it would look quite different to what we have now. In this essay, I will argue that a small change like Competency Based Assessment could have huge implications for Lifelong Learning within Higher Education.

Imagine if you had been in the music business in the nineteen sixties and a regulating body for that industry required that the only allowable way to publish recordings was to use a specific grade of vinyl, of a specific thickness, which could only spin at certain specific rotational speeds. An exaggerated scenario perhaps, when looking back at the level of innovation in that industry in recent years, but not inconceivable, particularly in view of the unsuccessful resistance of the industry to the more recent innovations. The consumer is only interested in listening to music and is largely uninterested in the mechanism through which this happens. We are generally agreed that any unnecessary restrictions on how that service is supplied will restrict innovation in that industry.

But that is how it is in most of higher education. Both external accreditation bodies and internal academic committees within institutions, not only wish to approve of the content of courses, but also have a say in the nature of the learning process. Why is this so? A university president recently expressed understandable concern about the idea that many students were not attending college, but instead were successfully passing their examinations from notes passed from their classmates by mobile phone (<http://goo.gl/uEsNs>) [1]. If you examine this, it becomes clear that his concern is that the process by which the students are acquiring the knowledge to pass their examinations is not necessarily achieving all the learning objectives that the institution is aiming for. It is a reasonable concern, but does indicate a lack of confidence in our assessment methods. You might argue that we are saying that we cannot be sure that our summative assessment methods guarantee the broad range of

outcomes we desire and so we are specifying the experience the student must go through in order guarantee the outcomes.

Solving the problem of guaranteeing outcomes through specifying learning experiences has two problems. The first one, and the thrust of this essay, is that it stifles innovation and agility. The second problem is that it may not achieve the desired outcomes anyway. Learning is not a very deterministic activity. It is too complex a process for anyone to predict outcomes based on inputs. Any quality assurance professional within industry will confirm that you cannot guarantee outputs based on inputs. You need to measure what you are trying to achieve. In education that means measuring all the learning outcomes that you wish to achieve is the only way to guarantee these outcomes are being achieved..

The movement away from defining learning content to defining learning outcomes in Europe and internationally is a significant step forward for higher education. It has encouraged educators to make explicit many of the objectives that had previously been unstated. Additionally, it has both encouraged and enabled the development of assessment methods that measure achievement against these explicitly defined outcomes. Theoretically, if an institution defines the learning outcomes of a course as well as credible assessment methods for measuring all of those outcomes, this can provide a better guarantee of outcomes than a deterministic description of the learning methods.

This idea is at the core of Competency Based Assessment which includes the principle that if a student can demonstrate in an examination that he or she has the competences defined in the learning outcomes then the credits can be awarded without the necessity of going through a specific learning experience. Competency Based Assessment is currently considered to be a subset of Prior Learning Assessment (PLA) and one of many methodologies for assessing claims of prior learning. However, the existence of Competency Based Assessments in certain topics means that it can be used as a strategy for gaining accreditation by students who do not possess the necessary prior learning in that topic. If the student can see what needs to be learned and find a way of learning that independently of the institution carrying out the assessment, then that student can apply to take competency based examinations in order to gain credits. Indeed this idea of “testing out” is a central part of a recent announcement by the University of Wisconsin of a flexible degree program where students could gain credits from purely taking the examinations. (<http://goo.gl/Ja82v>) [2]

So is this a “game changer”? Many have been commenting recently on the disruptive potential of MOOCs but it is interesting to note that many others believe that competency based assessment may have a bigger impact. In a recent Inside Higher Ed report on their own survey of U.S. university presidents (<http://goo.gl/uc3we>) it stated:

*“Only 14 percent of presidents strongly agree, and another 28 percent agree, that massive open online courses have “great potential to make a positive impact” on higher education; 31 percent disagree or strongly disagree, and the rest are neutral. But another higher ed innovation seems to have captured their attention: a full 60 percent of presidents agree or strongly agree that awarding academic credit based on students’ competency rather than seat time holds “great potential” for higher education.” [3]*

Why might they think this? Could it be that they know that their ability to influence change in teaching methods is limited by what others allow them to do? If Competency Based Assessment allows universities to grant credits based purely on measuring outcomes as opposed to inputs it could radically affect cost models in higher education and lifelong

learning. Universities that offer such assessment might dramatically increase enrolment from learners who either claim that they are competent already, or wish to gain the specified competences elsewhere at much lower cost. This development, known as disaggregation or unbundling has been predicted for some time now. Open Educational Resources and Practices, including MOOCs, have been heralded as a disruption that will drive this unbundling process but it is clear that there are barriers to rapid change within the existing system. Competency Based Assessment may be the key to breaking down these barriers and unlocking the potential of many innovations, including OER. The separation of learning from assessment will unleash a wave of competition in the provision of learning experiences. Such competition and freedom to innovate will improve the quality of provision and also drive down costs.

It should be pointed out that this separation of activities is not new. In the past universities did accept candidates for examination that did not attend classes. Even today this is practiced widely by professional bodies particularly in the context of lifelong learning. Where it is practiced there is healthy competition in the provision of courses to prepare candidates for examination.

So what will the new world of higher education and lifelong learning look like in 2030 when the principle of Competency Based Assessment has become widely accepted and the power of Open Educational Resources is being exploited? Well for starters, the distinction between the higher education and lifelong learning will have finally disappeared. Whereas some young people may choose to attend higher education on a full-time basis, others will choose to work and gain their education in a more flexible way. Their motivation for this may be purely financial. Because of disaggregation, their courses will cost less and they will also be able to work as they gain their education. However, in addition, their learning experiences may be even better. Technology will largely be able to replicate a similar social experience for such students that many consider is a valuable and irreplaceable characteristic of the full-time campus based experience. This may even be improved as they are also exposed to the more realistic social experiences of the workplace. The quality of learning will also be improved. Apart from having access to excellent free learning materials and courses, learners will be situated in the workplace where they will be able to see the value and relevance of what they are learning and where they may have access to advice and mentoring. There is every reason to believe that it will come to the point where part-time lifelong learning is the norm and full-time undergraduate education is a less common activity.

But how will it look different from within the higher education institutions? Emphasis will have moved away from the teaching process. Where institutions do provide courses, they may move towards curation of materials (often, if not mostly OER) and guidance of students towards assessments. Many institutions may decide not to provide courses but instead define learning outcomes and assess achievements of candidates against these objectives. Because institutions will have little control over the learning experiences of students, they will have to significantly improve assessment methods, particularly in regard to those outcomes that may have previously been implicit in the defined learning experiences but not necessarily assessed. There is a danger that this will drive up the cost of assessment and negate the cost improvements delivered by OER and competition in the learning process, but as the process of unbundling gains acceptance it is to be expected that there will be more emphasis on, and improvement in, assessment methods.

In conclusion, I would like to state that Open Educational Resources and Practices have huge potential to improve quality and costs in higher education and lifelong learning, but that we need to break down barriers to their adoption before they can have that impact. One of the

barriers is the over-regulation of the learning experience. Competency Based Assessment has the potential to break down that barrier and through competition unleash a wave of innovation that will rapidly transform higher education and lifelong learning.

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## Open Education: multilingual, user driven and glocalised

Katerina Zourou, Ph.D

*The multilingual, user driven and glocalised components will be catalysts in shaping future Open Education.*

Open education, as a societal demand that overcomes barriers to learning and development of personal and professional skills, is a reality, together with similar-minded initiatives such as open access to knowledge and more recently MOOCs (Massive Open Online Courses) aimed at large-scale participation via the web regardless of the learner's location, status, age or origin. Along the same lines, initiatives around the Open Educational Resources (OER)<sup>17</sup> movement aim to make resources that are useful for teaching, learning and assessment purposes freely accessible, openly formatted and openly licensed in a lifelong learning perspective. More recently, going beyond simple access and display in a repository, the emphasis is put on the re-use of freely available OER and their repurposing in new lifelong learning contexts. This conceptual change signifies a step forward in the maturity of the Open education movement and takes concrete form via the shift from OER to Open Educational Practice (OEP)<sup>18</sup>, as demonstrated in the 2011 study authored by EFQUEL, the European Foundation for Quality in E-learning<sup>19</sup>.

### On the one hand, OER and OEP at the forefront of world policies in education...

The European Union has shown a growing interest in the "Open" component in the education and training field through many recent initiatives. One of these, the 2012 European Commission Paper on *Rethinking Education*<sup>20</sup> recommends that "[t]echnology, in particular the internet, must be fully exploited. Schools, universities and vocational and training institutions must increase access to education via OER". The Commission is planning multi-

<sup>17</sup> We borrow the OER definition stipulated at the 2012 UNESCO Paris Declaration, according to which OER are "teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. Open licensing is built within the existing framework of intellectual property rights as defined by relevant international conventions and respects the authorship of the work". Reference: UNESCO (2012). 2012 Paris OER Declaration. World OER Congress, Paris, June 2012. [http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris%20OER%20Declaration\\_01.pdf](http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris%20OER%20Declaration_01.pdf)

<sup>18</sup> Defined as practices which support the production, use and reuse of high quality open educational resources (OER) through institutional policies, which promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path. OEP address the whole OER governance community: policy makers, managers and administrators of organizations, educational professionals and learners." [http://www.icde.org/en/resources/open\\_educational\\_quality\\_initiative/definition\\_of\\_open\\_educational\\_practices/](http://www.icde.org/en/resources/open_educational_quality_initiative/definition_of_open_educational_practices/)

<sup>19</sup> Camilleri, A., Ehlers, U. 2011. Mainstreaming Open Educational Practice. Recommendations for Policy. Report of the OPAL consortium [http://cdn.efquel.org/wp-content/uploads/2012/03/Policy\\_Support\\_OEP.pdf?a6409c](http://cdn.efquel.org/wp-content/uploads/2012/03/Policy_Support_OEP.pdf?a6409c)

<sup>20</sup> [http://europa.eu/rapid/press-release\\_IP-12-1233\\_en.htm](http://europa.eu/rapid/press-release_IP-12-1233_en.htm)

level action on OER (through policymaking processes, new European funding schemes, engagement with stakeholders, and local, regional and national initiatives). This is also emphasized through the European Commission “Opening Up Education” initiative<sup>21</sup> and has been pointed out very recently, in December 2012, at the Ministries of Education annual meeting<sup>22</sup>.

The UNESCO Paris Declaration adopted by the first UNESCO OER World Congress in June 2012 and the European Union initiative on “Opening Up Education” invite governments and educational institutions to develop policies for OER and OEP. The initiatives for MOOCs became the most talked-about educational innovation of 2012, and the rapid uptake of MOOCs indicates the possible impact of using OER and Open CourseWare (OCW) in education. Coursera, which started in April 2012, claims in February 2013 to have almost 2.7 million “courserians”<sup>23</sup>. Udacity, another initiative started in 2012, claims to have about 500 Udacity Meetups in cities in all regions of the world. In late 2012 initiatives for MOOCs had also been taken in Europe, such as Future Learn. However Open Education is neither only about MOOCs nor about institutional-led OER (or “big OER” according to Weller (2010)<sup>24</sup>), it is also about OER that are individually produced materials, shareable by practitioners, a point that we discuss in the next section.

### **...and on the other, a very heterogeneous OER landscape.**

Despite the growing interest in OER/OEP, the field is still under-explored. This is the view of OER experts. For example Fred Mulder, UNESCO Chair in OER, claims that we have a long road to travel before reaching ultimate global realization<sup>25</sup>. It also surfaces from the current state-of-the art of OER/OEP, for which only three dimensions will be briefly discussed.

#### *On the user appropriation level*

OER uptake is still lagging behind, with OER repositories and metadata catalogues not getting off the ground as expected. Independently of the reasons that may hinder OER uptake, OER repurposing and uptake in new learning and teaching contexts is slower than expected, raising questions about ways to empower learners and teachers to be more engaged (among numerous publications in this field two recent ones: Conole, 2012<sup>26</sup> and 2013<sup>27</sup>).

#### *On the language level*

A 2013 investigation<sup>28</sup> of the languages in which OER are offered shows extremely low representation of languages other than English. While Japanese and Chinese co-exist in OCW and OER repositories (although in a much lower percentage than English), other European

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<sup>21</sup> [http://ec.europa.eu/dgs/education\\_culture/documents/consult/open\\_en.pdf](http://ec.europa.eu/dgs/education_culture/documents/consult/open_en.pdf)

<sup>22</sup> [http://ec.europa.eu/education/news/20121211b\\_en.htm](http://ec.europa.eu/education/news/20121211b_en.htm)

<sup>23</sup> A TED talk by Professor Daphne Koller, co-founder of Coursera and Professor at University of Stanford, highlights the impact of Open Education and Open CourseWare  
[http://www.ted.com/speakers/daphne\\_koller.html](http://www.ted.com/speakers/daphne_koller.html)

<sup>24</sup> Weller, Martin (2010). Big and little OER. In: *OpenED2010: Seventh Annual Open Education Conference*, 2-4 November 2010, Barcelona, Spain. <http://oro.open.ac.uk/24702/2/926FFABC.pdf>

<sup>25</sup> Mulder, F. 2012. “OER will need 20 to 30 years to reach its ultimate global realization”  
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<sup>26</sup> Conole, G. 2012. “Opening up content”. Ministerial Conference “Opening up education through technologies: Towards a more systemic use for a smart, social and sustainable growth in Europe” Oslo, 9-11 December 2012.

<sup>27</sup> Conole, G. 2013. *Designing for learning in an Open World*. Springer

<sup>28</sup> A research group on this topic has been set up on the initiative of the author. Due to forthcoming research and publications in the field, more information can be given informally.

languages are extremely scarce, despite the fact that learning and teaching in/of languages, including less used languages<sup>29</sup>, is a priority at European level<sup>30</sup>. Due to their lower numbers of speakers and learners, less used languages have limited capacities for developing OER at the same speed and intensity as dominant languages. For governments and institutions representing less used languages, OER offer opportunities to lower the costs of education, to better meet students' needs and to innovate in education. But OER also challenge less used languages and the culture of their communities, in particular since OER on a global level are dominated by materials and initiatives offered in a few languages, in particular English. This situation puts pressure on less used languages due to the risk of their cultural dependence on dominant languages. This situation affecting quality of education is an issue faced by less used languages in their attempt to keep up with current global developments, where major languages have the capacity to be present in the OER landscape and have an impact on a global scale.

### *On the European policy level*

Despite the fact that the working paper on Opening Up Education<sup>31</sup> highlights the need for coordinated policymaking at a national and European level, the policymaking exercise on national context has not had the same vigour and impact on national OER uptake so far, with heterogeneous results across countries. A few flagship initiatives of national wide OER/OEP policies are the OER Sverige consortium<sup>32</sup> and The Nordic Open Education Alliance (later to be moved to Nordic OER<sup>33</sup>).

## **How will Open Education in 2030 in Europe be or What Open Education in 2030 do we want?**

Confident in shaping the future according to changes we want to see in the world, to paraphrase Ghandi, this section expresses some wishes, simply outlined here. To start with, the very term 'OER' may soon be outdated and replaced by a term better able to encompass the dynamics emerging around content. The acronyms 'OER' and 'OCW' both still have "content" (resources in the one, courseware in the other) as their focus point, making them concepts that are too static for the human activity blossoming around OER.

### *Multilingual*

Against the primarily monolingual OER landscape (see previous page), multilingual resources represent a pressing need to combat linguistic/cultural hegemonies and to valorise one of Europe's landmarks: the multilingual and multicultural European character. This will also strengthen the European workforce by offering learning and training possibilities to face

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<sup>29</sup> This refers to languages that are not commonly taught, regardless of whether or not they are official languages of the LLP participating countries, 'regional', 'minority' or migrant languages, where projects can help to improve the quality of teaching of these languages, improve access to learning opportunities, encourage the production, adaptation and exchange of learning materials and encourage the exchange of information and best practice in this field. Source: [http://ec.europa.eu/education/programmes/llp/glossary\\_en.html](http://ec.europa.eu/education/programmes/llp/glossary_en.html)

<sup>30</sup> Education Ministers adopted *Council conclusions on language competences to enhance mobility* [http://www.consilium.europa.eu/uedocs/cms\\_data/docs/pressdata/en/educ/126373.pdf](http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/educ/126373.pdf) which stress in particular the importance of providing continued support for language learning at all levels of education, of broadening the choice of languages on offer, of improving the quality and relevance of language courses, and of introducing innovative ways of learning languages - all areas in which European cooperation can play an important role.

<sup>31</sup> [http://ec.europa.eu/dgs/education\\_culture/documents/consult/open\\_en.pdf](http://ec.europa.eu/dgs/education_culture/documents/consult/open_en.pdf)

<sup>32</sup> <http://oersverige.se/>

<sup>33</sup> [www.nordlet.org](http://www.nordlet.org) and [www.nordicoer.org](http://www.nordicoer.org)

the need for language skills. This can be done both by a more active engagement of speakers of European languages in the creation and adaptation of resources in their lifelong learning context and also through more robust technologies, to facilitate sharing of multilingual metadata. Europe must preserve and enrich content in less used languages to combat the risk of linguistic/cultural dominance by English, the language in which the most powerful OER players operate such as the US, Canada and Australia.

### *Glocalized and blended*

Social computing<sup>34</sup> enhanced by location-aware possibilities will push towards a more “glocalized” engagement with OER/OCW, not only by multiplying the reach of digitally located networks with locally located ones. The biggest challenge of location based social networking technologies is to match global and local levels, examples of which are Coursera and Udacity Meetups. Web 2.0, especially in terms of change (or disruption) in the learning attitudes now possible (User Generated Content (UGC), horizontal content distribution, openness) will certainly be a driving force in educational innovation (Redecker et al. 2009<sup>35</sup>).

### *Engaging users through technology-enhanced social participation*

In line with the “glocalized” dimension mentioned above, Open Education will be more in line with the existing culture of social participation and new models of knowledge creation and sharing. A top-down approach to knowledge circulation as occurred in the formal education sector in the last decades (Katz, 2010<sup>36</sup>) does not fit current practice any longer, being increasingly based on open, participatory, networked and informal exchange. On the other hand, informal does not mean shallow and superficial (2010<sup>37</sup>): it calls for further investigation of its potential.

Research on Technology-Enhanced Social Participation, a new research field in the Human-Computer Interaction area (Preece & Schneiderman, 2009<sup>38</sup>), will be instrumental in moving user-driven participation a step further, in the direction of optimization of shared learning experiences. The “Reader-to-Leader” Framework put forward by Preece et al. can provide a solid grounding for making social participation effective to Open Education, by benefiting also from developments in gamification, namely user engagement and stimulus in collective efforts through recommendation and recognition systems be applied in non-game environments. Attention should be given to avoid the manipulative dimension of crowdsourced gamification, in the sense of companies exploiting users’ collective efforts of knowledge building without a corresponding remuneration, “[by] tap[ping] the latent talent of the crowd” (Howe, 2006<sup>39</sup>). Careful design of Open Education systems will be able to orient user engagement towards learning and collaboration outcomes.

### *Taking peer validation and social certification seriously*

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<sup>34</sup> Ala-Mutka, K. (2008). *Social Computing: Study on the Use and Impacts of Collaborative Content*. Seville: IPTS/JRC. Cachia, R. (2009) *Social Computing: Study on the Use and Impact of Online Social Networking*. Seville: IPTS/ JRC

<sup>35</sup> Redecker, C., Ala-Mutka, K., Bacigalupo, M., Ferrari, A., Punie, Y. 2009. *Learning 2.0: The Impact of Web 2.0 Innovations on Education and Training in Europe*. Seville: IPTS/JRC.

<sup>36</sup> Katz, N. (2008). *The tower and the cloud*. Washington: Educause.

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<sup>37</sup> Ito, M. (2010). *Hanging Out, Messing Around, and Geeking Out*. (M. Ito, Ed.) *Digital Media*. The MIT Press.

<sup>38</sup> Preece, J., & Shneiderman, B. (2009). The Reader-to-Leader Framework: motivating technology-mediated social participation. *AIS Transactions on Human-Computer Interaction*, 1(1), 13–32.

<sup>39</sup> Howe, J. (2006). The Rise of Crowdsourcing. *Wired*. <http://www.wired.com/wired/archive/14.06/crowds.html>

Recognition of skills and certification is an issue in current OCW and Open Education debates. Building on Preece's et al. "Reader-to-Leader" Framework one avenue full of potential is peer validation and social accreditation (an example in this direction is Mozilla's Open Badges initiative<sup>40</sup>). The latest research I am co-conducting in the area of web 2.0 language learning brings to the surface interesting and promising examples of (informal) peer validation that can be useful for (formal) certification purposes<sup>41</sup>.

#### *Addressing real needs expressed by end users*

By taking the bottom up concept of crowd funding<sup>42</sup> as an example together with the numerous crowd funding initiatives<sup>43</sup> (where an individual idea is backed by peers who acknowledge this idea, providing support and expertise until the idea finds private investment), Open Education can learn a lot from individual needs that become collective when more individuals located all around the world find this need matching their own. In the future it will be possible (at least that is what the author of this scenario wishes!) for professional needs to be expressed by groups of learners (getting together through simple and free digital platforms such as the crowd funding ones) to which knowledge providers will respond by setting up customized courses to meet these needs. End users will be able to express their needs for professional skills, to which providers can respond, by reversing the hierarchical knowledge distribution model and by replacing it with a model aligned to the real needs of groups. Participants and knowledge providers will be able to negotiate the training framework (materials, fees, modes of communication, duration, certification, etc.) to fit the needs of participants.

#### *Valorising the social component of Open Education*

Freeing up the dynamic, social component of OER will be the driving force of the future Open Education. Bottom-up, social driven initiatives started at no or very little cost, such as Wikipedia which revolutionized the relationship to human knowledge, its creation, sharing and reuse. This example clearly shows us that the future scenario, in which Open Education will fit real learning and teaching needs, has social participation as its foundation stone.

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<sup>40</sup> <http://openbadges.org/>

<sup>41</sup> Lamy, M. N., Zourou, K. 2013, in press. *Social Networking for Language Education*. Palgrave MacMillan

<sup>42</sup> Initiated by Michael Sullivan <http://crowdfunding.pbworks.com/w/page/10402176/Crowdfunding>

<sup>43</sup> <http://www.crowdfunder.com/>

## Part 2: Other Papers submitted under the Call

We are grateful for all of these colourful and interesting visions on Open Education 2030 for Lifelong Learning and wish we would have been able to invite more authors to our workshop. We hope these papers will contribute to a lively debate and drive policy making in the area. Here, in alphabetical order, all submissions that we received under the Call for Papers but could unfortunately not invite to our workshop in Seville:

*Ewa Danuta Bialek* believes that the future of “Open Education” lies in restoring communication with oneself (Self-education), and this will help to build healthy relationships with others (Health education) and the World, thus solving the same human and contemporary World problems.

*Francisco Castillo García, Juan Diego Pérez Jiménez and Luis Miguel Iglesias Albarrán* of the Lifelong Learning Department at Andalusian Regional Ministry of Education, think that the widespread use of OER should be/become one of the clue factors in the search of a EU model of Open Education, in our current context of a dynamic, ICT dominated society, subject to constant global change.

In the vision developed by *Lotte de Rooij, Chantal Brands* and *Annjet Goede* open education in 2030 means that the school is a local community-node, both on- and offline, where youth, adults and elderly people meet and work together and where they are facilitated by educational professionals and open resources to discover their talents, formulate their dreams and develop skills and knowledge in order to achieve those dreams.

*Markus Deimann* argues that Lifelong Learning is indeed a valuable concept and should therefore not solely be understood and issued as an economic imperative but as an empowering tool to enable “Bildung” and learning in open complex worlds.

*Carlos Fernández del Valle* believes that convergence among all with everyone and everything” will dominate the everyday reality in the year 2030, i.e. the actual implementation of ubiquity for everyone, which means telepresence, unlimited space and with it the ability to interoperability, human-machine (work), machine- man (training), and human-human (share, advise, study), offshore of any particular place and of course naturally.

In his scholarly paper *Aleksandrs Gorbunovs* envisages that Open Education in 2030 in Europe might look as the synergy of engaging technology enhanced learning approaches and new generation smart ePortfolio system with collaborative group-working and comprehensive assessment environment which, equipped with artificial intelligence tools, would improve learning outcomes and suggest learners appropriate ways to achieve new competence levels based on analysis of acquired prior ones.

*Vinod Kumar Kanvaria* envisages that in 2030, learners and facilitators would give rise to a society made up of global democratic citizen, having values of respecting others, as they are, with the help of highly advanced technologies through sustainable practices involving public and private actors including the last learner of the society, too, through open educational resources and practices facilitating learning, throughout the life.

According to *Federico Pistono*, by 2030 the sum of all human knowledge will be openly accessible by anyone, regardless of their age, language, geographical location, or financial

status; effectively taking down most if not all barriers towards an open, collaborative, peaceful, and prosperous society. People will be learning throughout their whole life, and every day they will discover the blissful joy of finding out new things, learning new skills, and participating in projects together with other passionate individuals.

*James Richards* believes that a near future that offers open technical and pedagogical infrastructure, will bring unprecedented opportunities to deliver 'pervasive education', allowing us to access learning orientated content experiences wherever we are and whenever we want.

*Derek Tatton* thinks that, despite the economic crisis and financial restraints, informal adult learning networks are using interactive technologies to develop new forms of education-for-citizenship processes and courses to address big 21st century social, political, philosophical and cultural issues.



## **Synthesis as a way to solve the underlying problems of individual, family, society and the World**

Ewa Danuta Bialek

*The future of education lies in restoring communication with oneself (self-education), and this will help to build healthy relationships with others (health education) and the world, thus solving the same human and contemporary world problems.*

*“Education must respond to the needs of the human spirit. It must assist person to develop a satisfactory personal philosophy and sense of values.”*

From the Conference in Chicago, 1953:

Education in democratic society: concerning the spiritual foundations of civilization

*“When something comes at a proper time - it is education; when too late - it is therapy ”*

R. Assagioli, founder of Psychosynthesis

*“If we still need more education in order to protect us, education would lead us into the essence of things.”*

E.F. Schumacher

### **Introduction**

Being an experienced and accomplished scientist in the field of medicine, my passion is the integration of science into life. My intention is to contribute my vision and life wisdom through the Synthesis of a wide range of Health related topics, international individuals (visionaries and innovators - global citizens), institutions (OER and OEP as a main sources), universities and others (public and private actors, mainstream and outstanding programs outside of it) to work together ‘in synergy’ to co-create an Open Global Uni-versity (Uni-ty in Di-versity) of Sciences of Self, Life and Practical Sciences. My intention for teaching persons (also seeing global perspective) is to raise their awareness of our global challenges, to recognize the holistic nature of our world through understanding ‘whole systems’ and empower them to solve urgent contemporary problems, thereby contributing individually and collectively to Humanity, through a focus on Health & Wellbeing.

My work and years of experience has led me to understand the causes of diseases at an individual, social and global level. It brought me also many ways and means to not only allow for their release, but to create a coherent system that can connect to both the philosophies and techniques of many interdisciplinary approaches, learning and healing systems - still perceived as ‘outside of science’. This approach can in fact bring clear benefits in the areas of health, its prevention and treatment, for individuals as well as at societal and global levels. This holistic way of thinking about health, and the global effects creates a range of opportunities and choices for every person, or institution and community, transferring *responsibility for health for every person* and his conscious choices, both for himself, the environment, as well as global scale. It also carries *the responsibility for the consequences of their actions and omissions of them*.

My experience in science and practice has shown me the great value of mutual interdependence - not only *horizontally*, but also *vertically* and *across* - both at different

levels of education, the multiplicity of the dynamic of different objects and subjects, and above all, by inserting ensuring that individuals are "supported from the inside", by helping to expanding his awareness and make conscious choices. My experience has shown me also how this information (known as energy, according quantum physics) supports the sub-cellular level of the body, and that it can cause also the opposite effect - bringing the destruction of the individual and at a global scale. That is why it is so important *in education* at all levels to realize and respect three fundamental principles that guided me, 15 years ago, to create the Association "Education for the Future" and later "Institute of Psychosynthesis. Centre of Supporting Human Development".

These are:

1. Hippocratic principle of "*primum non nocere*" - first, do no harm
2. Albert Schweitzer "*reverence for life*" philosophy: "live and let live others (and the Planet)"
3. The principle of Psychosynthesis: "*When something comes at proper time - it is education; when too late - it is therapy.*"

They are universal truths and therefore suitable for each and *every system of education* and any country, in every field of social life. I believe that they are keys to connect and *Synthesis* all stakeholders involved in *the network in action* for the common good, health, peace and a sustainable future for themselves, each other and the World.

The idea of cooperation within the network - based on the principle of *the synthesis of all partners including the guiding thread of health* (seen as a whole) as a core of this process - is to build a coherent program for current and prospective students, as well as lower levels of education. This will not only expose the unique contribution of each institution, but will combine them into one coherent whole, where the impact of each is clearly recognized and connected to the plurality of multi-links like all facets in a diamond. These constraints express the importance of cooperation to satisfy the needs at a local and global scale and the nature of the problems being solved by them. First of all, it will help to build a common curriculum, where people can reap the benefits not only in terms of knowledge, but also gain inspiration to explore their unique purpose (or calling) in education and health regeneration, (prevention and repairing of health) at all levels of humanity - on a scale of individual, community, society and planet. This process will develop the persons' intrinsic motivation to be all they can be in terms of realizing their individual gifts and talents, and to find their purpose and place in the World.

*This is a 1-st Part of my Vision concerning Lifelong Learning. In the next part I will describe: School Education (part 2) and Higher Education (Part 3).*

## **New challenges**

We live in a reality that poses important challenges for all people. This relates in particular to support the wider health understanding, both in terms of personal, social, as well as in the whole World. Vision presented here refers to all the aspects of health and seen both horizontally and vertically. This vision sees man as a whole, as well his activity throughout the space of his life. The same applies to an Open, Lifelong Education, inclusive of every human being, as well as his responsibility for himself and the state of the World.

It treats education as a life-learning process, but also of participation in the lives of others through their gifts, talents and passions, which they perform in the World.

Presented vision introduces the Lifelong Education as a "self-learning". It:

- Provides individual health - physical, mental and social - as a fundamental value of every human being and humanity, healthy relationships, a healthy environment,
- Raises awareness of man's place in nature and the cosmos, the sense of individual lives, communities, self improvement, harmony with others, sustainable development of each individual - for the sustainable development of society; also to protect and preserve the environment for future generations,
- Brings awareness of the uniqueness of every individual in the community, his inner complexity - the inner world, as important as the external reality,
- Prepares everybody for life, coping with difficult situations, self-reliance, responsibility, revealing "the humanity of the man"
- Strengthens the humanities aspects, the potential ability of individual body, mind and spirit to serve them to others.

Education and learning should be education for sustainable development and health in the context of a multi-dimensional perspective (since holistically conceived development and health units, and harmony with other people and ecosystems), humanizing this process. In this point we are dealing with values. "No one is born as a man, he becomes the man in the process of life" - wrote W. Sedlak.

Education for health - in the family, school, community, society and the World has many facets. This includes not only health of a particular individual on many levels: physical, mental and social. It also embraces education for life in the community - kindergarten, school, friend and partner relationships, to family life, and service to others - civic and environmental education at the same time - to respect all life. It is therefore a broad *education in human values*.

Values form the man, his being, the essence, its increase of man in his humanity. Reaching personal values, man overcomes them, entering transpersonal level of spiritual, universal values such as: beauty, goodness, compassion, courage, creativity, freedom, cooperation, brotherhood, goodwill, gratitude, harmony, joy, friendship, love, patience, trust, peace, understanding, wisdom, service to others. Thanks to different values a man becomes a Man, discovering them in himself, kicking and revealing what is hidden out, to perform them in life ("educare" - mining out what was hidden inside). Values are the essence of life of every man in his relations with other people and nature.

In this way understood education, starting with a single man, makes it clear that *the quality of individual personality* is a global problem - health and disease, war or peace in the world, and so the problem of the whole of Humanity. World peace is impossible unless there will be peace in the individual man - in his thinking.

### **Self education**

This broader concept of health, as self-education is essential, including individuals in lifelong process of upbringing and education, also health professionals and patients. It is a crucial goal to gain health all around, also efficiency in health care for this wider approach to it. The prospect of "health education" – is an open system of lifelong education which includes a multi-sectoral approach. The essence of education is to use all the methods and resources that support individual health and growth. Lifelong education system uses all possibilities, both available in mainstream education, as well as any additional methods bringing self-understanding, managing emotions, coping with stress, enhancing healthy lifestyle, nutrition, breathing, clean water, balance the internal world, using of sport, exercises, recreation, body & fitness, etc. The main core is to maintain health and welfare of the individual.

OER and OEP are the centers (sources) for collecting information, coordinate them into one coherent system of communication. There is a flow of information nationally and internationally, integrating technological innovations, including academia, university centers. Both (OER and OEP) are also a part of the verification process (GP - Good Practices and EBS - Evidence Base Systems).

### **Education of partnership to create healthy families**

Knowledge about yourself is the foundation for building healthy partnerships and families. The education system is based on the creation of "Schools for Partnership", based on raising awareness of the potential and current partners to understand how their thoughts and emotional patterns (also from their individual childhood and families) influence their relationships, building "healthy" or "sick" reality, as well as copying it to next generation.

### **Schools for parents**

This system of education prepares present and potential parents for planned conscious parenthood, through "Schools for Parents" to support sustainable development and health from an early age. This is a third stage of education (after self-education, partnership) to understand how both parents thoughts and emotional patterns are copied to the child, building his reality and health pattern. People have also become conscious of their life journey and discover their purpose of life, as well as assisting in the development of their child, whose program is already existing in him (like in a seed) and should be read, but not changed. This is consistent with the Latin meaning of the term 'educare' - the extraction what was hidden inside.

### **Education in local community**

Taking responsibility for man' health and growth in the first stage of upbringing child and education, can be put into practice, not only in the family but also in the community. People are becoming responsible for what they produce, not only for their thoughts and emotions (sending it to the noosphere or former - to collective unconscious). They also are responsible for what they throw into the environment (waste sorting, decreasing by his behavior "a negative imprint" in the surroundings).

### **Social education**

Each of the elements are involved in building a better future for ourselves and the World. Each man discovers through Lifelong Education its mission (purpose, calling, the need to serve others). Each activity is devoted to common good. A "new business", is based on the protection of the common good / health / survival, not taking from the environment more than the man himself gives him. Thanks to this, sharing each other mission, all of his talents are not only serve himself (self-realizing) and family, but also to society and the World.

New professions are coming into consideration, supporting health for individuals and in whole meaning. Numbers of techniques, methods and technologies which are opening new fields of study to prepare interdisciplinary professionals who see health as a whole – is needed. This direction - holistic health, could educate professionals, who are prepared not only in the field of medicine, pharmacology and nutrition as well as the humanities, such as psychology, education, sociology, biology and ecology. It needs new approach and

complementary education (courses) for new challenges, also groups of co-workers, networks, innovators, visionary people, new extrasensory skills to see the weakness and strengths of these approaches. It needs also different methods of assessment, recognition and certification. These new courses prepare graduates in the public or private sectors or local government to sort out the chaos existing in some areas and provide also patients of health care system with appropriate information and support. Health Support Centers (Health Education Centers) are very needed.

A graduate of holistic health education courses have the skills of synthesis and are able to draw conclusions about the complex impact of all external and internal factors affecting a person's health, attitudes, behaviors and personal factors such as food of an individual (including children and young people, families and the elderly) and environmental factors. Therefore, the graduate are broadly educated as health professionals with an understanding of the sociology of personal health, family, community and the effects of people on the environment and familiar with responsibility for protecting it for future generations.

Education for the future is for the development of individual human consciousness, his health and balanced personality. It is devoted to highlight the essence of man and the World, sense of existence and man's place in the World, and the spiritual dimension of Life as a whole. It builds co-operation, peace and love in individuals, family, community, society and the World.

Through this kind of Lifelong Education a man becomes a co-creator of his reality in which his gifts, talents and values are not only appreciated, but useful for the benefit of all, creating a new quality of life for him and the World. Thus, "a return to the essence of things" is not only the cause, but the consequence of a new world order, which begins by being authentic, whole as a human being, with his spiritual nature, knowing who he is and where he is going – fulfilling its purpose of life.

As the researchers and educators in this time we need to become not only the communicators of knowledge but also the transformers of our life experiences, emotions, feelings, the enormous wealth in inner world, through various means of expression, being the "living models" showing how it works in us, through us. At the same time we have become guides to the internal wisdom and facilitators of evolution, moving from ourselves.

By changing only oneself, then it reaches many visions of "a better world", leading Humanity to a higher level of evolution, the birth of the civilization and culture of respect for human dignity and the sanctity of life as a whole.

## **Conclusion**

I am presenting a concept of sustainable development and health concentrating first on the individual level, then on relations between humans and finally on the environment. This way of understanding the idea requires creating a whole system of social education. My model of "Education for the Future" focuses on a wide range of references in the literature covering the scientific basis for creating a global image of oneself, the world and reciprocal relations between human being and the environment, especially in aspects of self-consciousness as well as the spiritual nature of humans which is a part of "anima mundi" "or a web of life".

The mentioned model seeks to effective education which:

- Outgoing individual needs – so it is *co-dependent*, stimulating individual values and growth;

- Is *interdependent*, promoting the value of others, which builds confidence in yourself and others;
- Recognizes the values of transpersonal level – so it is *transdependent*, reaching the universal values: such as love, beauty, goodness, compassion, courage, creativity, freedom, cooperation, brotherhood, goodwill, gratitude, harmony, joy, friendship, patience, trust, peace, understanding, wisdom, service to others;
- Is *independent*, free from all restrictions, growing extensively to broaden awareness of the human individual and global (supporting evolution) perspective. Education is gradually stimulates confidence levels: from the passive (copy) to the active (creating questions) and interactive (discussion, learning each other) curriculum.

The new approach to Lifelong Education is:

- Exploring the inner world of self (Science of Self)
- Looking to the future and building a future Now, by reaching out to solve the existing problems, and providing consequences and prevent them "a priori"
- Inclusive, building holarchy, the next level incorporating previous one
- Supporting self-expression – for all
- Constructing awareness and community life - to share, to grow in love, to co-create and act together
- Raise awareness of the spiritual dimension of himself and the world and to express it in his life - his, family, community
- Creating a community - building a community from the basement – “education of community”.



## **Open Education in Lifelong Learning A Practical approach to the EU 2030 scope**

### **From the Andalusian Lifelong Learning Service experience**

*Francisco Castillo García, Juan Diego Pérez Jiménez and Luis Miguel Iglesias Albarrán*

*The widespread use of OER should be/become one of the clue factors in the search of an EU model of Open Education, in our current context of a dynamic, ICT dominated society, subject to constant global change.*

### **Abstract**

The irruption of ICT in society and particularly in education as an open model of access to data and knowledge has brought the need to reconsider what is *closed* in education and should be *opened*, to update with our present time society. We believe that many of the ideas exposed in this document are fully applicable to other areas of the educational system, such as school and higher education.

### **Context**

According to UNESCO, "in the knowledge-based global economy, future prosperity and security as well as peace, social harmony and environmental sustainability will depend on people's capacity to make informed choices, to adapt to rapid change and to find sustainable solutions to pressing challenges". Today, more than ever, we must strive to offer learning opportunities for all, throughout life, to improve the quality of life, to promote a more just society, and to equip people to anticipate and tackle the challenges they face. Lifelong learning is the essential organising principle for reaching this goal".

Times change,  
people change,  
situations change,  
relationships change.  
The only thing  
constant is change.

[WWW.LIVELIFEHAPPY.COM](http://WWW.LIVELIFEHAPPY.COM)

We all live in a social context featured by facts such as the instant availability of the necessary data and information at any time, the exponential increase of connectivity and social networks, the constant growth of transnational mobility of students, teachers and workers that demand adjustments of all kinds. And all of these is happening within a framework of global change in so many aspects of our lives and areas of common interest.

However, in general, our education system, broadly speaking, is still eminently regulated, based upon classical and fairly closed structures and criteria, in key aspects such as:

- The curricula
- The classroom and the relationship among teachers and students / trainers and trainees
- The methodology of teaching and learning

- Assessment criteria
- The didactic resources format
- Prior knowledge recognition and certification
- Schools organization and inter-relationship

With this background, from the Lifelong Learning Department at the Andalusian Regional Ministry of Education we have been working for some years following a route map that tends to apply, from our management area, the concept of *open* to all possible elements previously mentioned. Though our area of competence relates to formal and non-formal adult learning, however we believe that many of the proposals exposed in this document are fully applicable to other areas and levels of the education system.

So, from our point of view, in a future desired horizon for the EU 2030 education system we consider as basic to push forward in the following fields:

### **1. Opening classrooms / teacher networks**

Move from a transmissive unidirectional teaching model, limited to the same time and space for all participants and based on essentially fairly theoretical concepts to write them down on a test once a term to a model that focuses on the following aspects:

- Project based work, with a methodology based on practical, integrated, meaningful and contextualised information and data, that promotes learning by doing.
- Change in the role of the actors participating in teaching and learning, promoting:
  - The role of teachers as counselors and facilitator, as well as students peer-learning and collaborative relationship.
  - Teacher networks for communication and cooperation among professionals.
- Encourage the use of ICT for learning, as a valuable tool, not as a goal in itself, to encourage learning beyond school and classroom, promoting 24x7x365 availability of guided or informal learning, anytime, anywhere.
- Continue with the promotion of transnational mobility of trainers and trainees to broaden the knowledge of other cultures and the cooperation and interchange of best practices to reinforce the idea of belonging to the same European group / society.

To reach that, we need to go forward in:

- Orientate initial teacher training to the items previously exposed, together with a teacher training plan to cover methodology and ICT use for learning within and out of the classroom.
- Design and put into practice need a soft hosting plan to introduce students used to classical learning methodologies, to get them to work and learn in a different way and how to use the different tools needed for that.

### **2. Opening curricula**

Go beyond the limits of present curricula, their structure and organisation, excessively long and organised in closed pieces of knowledge towards more open generic frameworks of items and areas to cover, including proposals of integrated contextualised interdisciplinary contents, aimed at the acquisition of key, professional and active citizenship competences, especially considering learning autonomy and entrepreneurship values.

All this means giving schools more flexibility and autonomy to move towards a collaborative and interdisciplinary model, that's to say, a more *open* inwards and outwards (families, institutions, other schools....) school model, which means new changes in their organisation, so as to be able to responsibly decide what to teach as well as the methodology and necessary tools for that goal in a world of global constant change.

### **3. Opening educational resources (OER)**

Move on from a model based on closed static content (digital or paper textbooks), not adapted to the *changing* processes we live in to a model of *open* resources, dynamic (we can interact with them), multimedia (include audio visual elements) and multiformat (they adapt to different situations, realities and devices. this is especially important in lifelong learning), which tends to happen anytime, anywhere and promote learning autonomy.

To carry that out, we propose the design and definition of a European standard of open educational resources that enables the creation of a European repository of digital content,

- Whose access allows us an easy and friendly search of resources.
- Able to answer questions or search different format elements using semantic techniques.
- Able to use and adapt source files.
- Automatic translation of content to the target language.
- Create social and professional networks around this repository, to allow users intercommunication and cooperation.
- Constantly updated and disseminated.

### **4. Opening learning certification system, including non formal and informal**

Move from a system of formal learning certification to a European standard that includes non formal and informal learning recognition, validation and certification. For that state members should tend deepen into the integration of their national education and training systems so as to facilitate knowledge transfer and citizens mobility. Common standards may be created for other key and professional competences, following the example of Common European Framework of Reference for Languages.

## **Conclusion**

In our opinion, any education system cannot move on ignoring what's happening around and out of school. That's the main idea we tried to develop in this document. A more open, interconnected, globalised society demands a change in the education system in the same way, *opening* to society what is still relatively *closed*.

Our approach is practical as it comes from our daily work experience. Broadly speaking, it uses open educational resources (OER) as the backbone to reach the desired *opening* we promote in other fields or areas. we consider OER with a more ambitious shade of meaning of that given by UNESCO. In our view, to be *real open* they need to be open source, practical, multimedia, multi format and including semantic information within.

OER are created by teachers, parting from their own professional experience, connected them with real world and other fields of knowledge, promoting peer working and learning. Once created and stored, their own dissemination must facilitate the desired opening and change proposed.

Administrations and the public sector must involve themselves in this scheme to financially support, promote and facilitate the whole process, with the necessary quality technical support as well as the education policies in the directions described in this document.

This open education model aims at:

- Getting users to learn autonomously (learn to learn), using the available resources and the cooperation of others, to manage the information and the knowledge acquired to solve different situations along their life and face their future successfully.
- Give the necessary tools to allow users choose the pathway that best suits their interests and the necessary guidance to access to the European labor market, being ready to learn, update and adapt to new different circumstances and dynamics.
- Promote social abilities, teamwork, peer-learning, creativity, innovation, putting into practice and disseminate ideas and projects, risks assumption and entrepreneurial skills, as positive values to success in modern European society. That is to say, educate citizens to be able to cope with challenges the Europe of the 21<sup>st</sup> century will generate.

There is still a lot to do and 2030 is just behind the corner, so the sooner we start, the better.

## Links

- Open educational resources repository:

[www.juntadeandalucia.es/educacion/permanente/materiales](http://www.juntadeandalucia.es/educacion/permanente/materiales)



- Andalusian Lifelong Learning Department website:

[www.juntadeandalucia.es/educacion/permanente](http://www.juntadeandalucia.es/educacion/permanente)



- Teacher Networks - European SchoolNet.  
[http://service.eun.org/teachers-newsletter/TellNet\\_Teacher\\_Networks\\_web.pdf](http://service.eun.org/teachers-newsletter/TellNet_Teacher_Networks_web.pdf)
- UNESCO - Open Educational Resources.  
<http://www.unesco.org/new/es/communication-and-information/access-to-knowledge/open-educational-resources/>
- UNESCO guidelines for the recognition, validation and accreditation of the outcomes of non-formal and informal learning.  
<http://unesdoc.unesco.org/images/0021/002163/216360e.pdf>
- Image by deeplifequotes on Flickr with CC BY-NC-SA 2.0 license.  
<http://www.flickr.com/photos/deeplifequotes/7059771421/>



## Education for Dreams

Lotte de Rooij, Chantal Brans, Annejet Goede

*In our vision open education in 2030 means that the school is a local community-node, both on- and offline, where youth, adults and elderly people meet and work together and where they are facilitated by educational professionals and open resources to discover their talents, formulate their dreams and develop skills and knowledge in order to achieve those dreams.*

### What learners will learn in 2030

What learners must learn becomes more and more unbound as the learner gets older. A young child will learn basic compulsory skills and knowledge -including 21st century skills- that are defined by a network of local stakeholders which are connected to the school, such as local government, child welfare and youth care, parents and local entrepreneurs. This network signals societal and labour market developments and translates this into compulsory skills and knowledge every child and adolescent should acquire.

*Think-and-do tank Onderwijslab (Education Lab) consists of a group of Dutch young, enthusiastic and committed educational professionals -with an average age of 27- who want to change the education system. We brought together our ideas in a vision paper on education in 2030. This will be published in May 2013.*

Furthermore, educational professionals take the dreams of their learners as a starting point and connect these dreams to the compulsory skills and knowledge they have to learn. This makes developing these skills and learning the knowledge meaningful for the learner what will lead to an optimal personal motivation.

Besides the compulsory skills and knowledge, there is plenty of room for the discovery, recognition and development of talents of the learners. The older a learner gets, the more room the curriculum leaves for education that facilitates his authentic learning questions. These are questions the learner wants to know the answer to from his own personal interest. This continues until education is about nothing else but facilitating the learners authentic learning questions: lifelong learning.

### How learners will learn and the role of the professional in 2030

Educational professionals strive to facilitate the process of talent discovery and personal development of learners. They are masters in designing education that encourages creativity and problem solving from an authentic learning question of the learner. While designing this education they use a blend of open educational materials, techniques and methods, both on- and offline. These resources are internationally accessible. Examples are videos, books, expert webinars, games, tools and methods like experiments, research, instruction, gaming or cooperation. The learner selects his combination from all of the available open and international resources and practices.

In 2030, these resources are available anytime, anywhere, mostly for free. They can be designed by educational professionals or publishers, but they can also be developed by fellow students, corporations, experts, etc. The quality of the open resources and practices is rated by the users, so qualitatively poor content will disappear automatically. The open source material and the results of a learning project will still be available for the learner after graduation.

Education can take place both online and offline in the school domain (courses, trainings and tests) or 'in the real world' (projects or internships). Education and learning is facilitated by educational institutes, but teaching is not limited to educational professionals at the school. Projects and internships can be organised through cooperation between the educational professional or the school and a company, an expert or other educational professionals from other schools. These educational partners can be found in the professionals or the schools network.

Educational professionals find themselves at the intersection of teaching and practice, because they are not full time teachers, but are also active in other ways, for example in another profession or as a volunteer. This enhances their professional network, insight and makes them an example of lifelong learning.

### **Quality of education and the diploma**

The qualification the learner receives at the end of a learning trajectory describes every talent the learner possesses and looks at how he operates in a particular environment. The qualification is not necessarily a book, but can take any form, like a movie or a presentation. It is validated by both peers and teachers and -can be- reviewed by other stakeholders in the learning trajectory. Finally, it includes the learner's reflection on the process.

### **The role of the headmaster / school director**

Finally, the role of the headmaster/ school director is to service and facilitate the educational professionals within the vision of the school and to activate the network of stakeholders around the school. By signalling trends and developments in society this network of stakeholders ensures a continuous exchange of good ideas on education and interaction between the school and its direct environment. This way, the school and the educational professionals will be in constant motion in order to keep the education up-to-date and to be able to prepare the learners to take up their role in society.



## **Unmasking the Lifelong learning dispositif: Why we must rethink learning in the digital age**

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*Lifelong Learning is indeed a valuable concept and should therefore not solely be understood and issued as an economic imperative but as an empowering tool to enable Bildung and learning in open complex worlds*

### **Introduction**

Although lifelong learning (LLL) is one of the oldest stories in the book of education and it would be absurd to believe that learning is bounded to a certain period of life, say until the age of 40, it has become an economical imperative that shape the behaviour of people, institutions and policy makers. Moreover, it is now used in an inflationary way and describes phenomena which have no so much in common. The primary goal has then been shifted towards regulation in order to normalise and standardise learning and its outcomes which has become highly apparent in the form of the “test mania”. This kind of mechanism has been described in great depth by French philosopher Michel Foucault who referred to it as a dispositif.

While during most of the industrial age, working life was pretty much (pre-)determined, i.e. after college or vocational education a life long contract with fixed working time and salary was the common way. Due to the emergence of globalism and digitalisation, the organisation of labour has become much more flexible and individualised (i.e. new forms such as part-time work or home office and the new service sector came into existence). However, there has also been a considerable change in the underlying narrative which now puts the individual in charge of keeping pace with transformations. Part of this narrative is the economical imperative which holds that the economy demands a better skilled work force to deal with the consequences of the changes being triggered by this very economy. In this regard, education is being commodified and replaces classical economical factors culminating in the practice of Human Resource Management (HRM), the management of an organization's workforce, or human resources. The individual is thus of strategic importance and programmes for improving or developing competencies are issued in such great detail so that nobody is overlooked during the course of his/her working life. Education in this form is thwarting the philosophical ideals which are about self-cultivation and self-realisation to the detriment of economic exploitation, i.e. education is now longer an end in itself but a means to an end.

Against this background, the present vision paper attempts the following: firstly the concept dispositif is introduced as a theoretical framework to analyse and unmask the current narrative of LLL. Secondly, it will be shown that the prevailing LLL paradigm entails severe contradictions that need to be resolved in order to empower individuals to fully capitalise on the potentials offered by Open Education and social media. Thirdly, a set of scenarios is

presented that are based on a deepened and “enlightened” understanding of learning and education and some recommendations for policy makers are outlined.

### **The dispositif LLL**

In an interview conducted in 1977, Foucault gave the following definition of a dispositif<sup>44</sup>: “What I’m trying to pick out with this term is, firstly, a thoroughly heterogenous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions—in short, the said as much as the unsaid. Such are the elements of the apparatus. The apparatus itself is the system of relations that can be established between these elements. Secondly, what I am trying to identify in this apparatus is precisely the nature of the connection that can exist between these heterogenous elements. Thus, a particular discourse can figure at one time as the programme of an institution, and at another it can function as a means of justifying or masking a practice which itself remains silent, or as a secondary reinterpretation of this practice, opening out for it a new field of rationality. In short, between these elements, whether discursive or non-discursive, there is a sort of interplay of shifts of position and modifications of function which can also vary very widely. Thirdly, I understand by the term “apparatus” a sort of—shall we say—formation which has as its major function at a given historical moment that of responding to an urgent need. The apparatus thus has a dominant strategic function. This may have been, for example, the assimilation of a floating population found to be burdensome for an essentially mercantilist economy: there was a strategic imperative acting here as the matrix for an apparatus which gradually undertook the control or subjection of madness, sexual illness and neurosis.”

Following this definition, Agamben (2008) points out three important aspects for the understanding of a dispositif:

1. It is a heterogeneous entity including everything what is imaginable (linguistic and non-linguistic such as discourses, buildings, laws, philosophical theorems etc.). It can be thus conceived of as a net that is built around those things.
2. A dispositif has a strategic function and integrated in power relations.
3. A dispositif is also an entanglement between power and knowledge.

The notion of power and its close relationship with knowledge is a crucial aspect in the quest of unmasking the myths built around LLL over the last decades. Power in the Foucauldian sense is less a repressive force but much more aimed at generating new productive forms. With the help of disciplinary tools like sanction, the human body is exposed to the logic of economical reasoning, i.e. it is aimed at enhancing the economical profitableness. By the same token, economic utility goes hand in hand with individuality, i.e. deviations from the norm “economic utility” are interpreted as individuality that allow differentiation, evaluation and categorisation according to skills, knowledge and achievements. This process of governance has been accelerated due to the hegemony of neoliberalism. The respective narrative holds that the half life of knowledge dramatically decreases so that we constantly are forced to “update” it and to ensure employability. LLL becomes a dictate in the sense of an ongoing self-assessment and improvement of competencies using various forms of HRM. Another important aspect that is prone to support LLL as a dispositif is the way it includes humans in the course of a lifetime, i.e. learning does not – as it is implied in the meaning of training – refer to a short-term practice to refresh or acquire skills but to a never-ending

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<sup>44</sup> <http://en.wikipedia.org/wiki/Dispositif>

activity where the only function is to learn. By stressing the importance of the term “lifelong”, learning loses sight of its educational origins which, however, do not claim that learning is restricted to a certain period but which describes the entire process much more holistically.

### **Contradictions around the LLL myth**

LLL is often associated with the provision of freedom to the individual to engage in training and other forms of education at his/her own terms. However, this is embedded in an economic imperative or dispositif which is almost inescapable for the learner. This leads to a restricted view of education, very similar to the “banking concept” developed by Freire (1996) in which the student is depicted as an empty vessel or a depository and the teaching is the depositor who “instead of communicating (...) issues communiqués and makes deposits which the students patiently receive, memorize, and repeat” (p.53). Moreover, the range of topics are limited inasmuch as only those are perceived as “valuable” that have are directly profitable which is, for instance, apparent in the programs for further training (e.g. Chamber of Industry and Commerce). Nevertheless, learning and education have emerged in a broader understanding that goes beyond acquisition and utilisation of knowledge and encompassed the processes of self-realisation or self-cultivation. This is reflected in the German tradition of Bildung which signals a new value of its own (for a more detailed account see Deimann & Farrow, in press). In its classical sense, Bildung refers to the unrestricted interplay between the self and the world in order to unfold all the potentials of the individual. It is a process in which humans acquire general characteristic human features. With regard to Open Education, Bildung can be understood as a “kindred spirit” (Deimann, 2013) because it leverages the potentials of openness and digitalisation, i.e. openness and digitalisation are the breeding ground for Bildung as they provide unrestricted access to learning and cultural contexts (e.g. MIT OCW) so that the individual can engage in virtually unlimited learning experiences. Yet, on the other hand, learning in open contexts is not without presuppositions, especially when it comes to MOOCs (Kop, 2011). New competencies and skills need to be acquired in order to feel comfortable and be able to master the challenges of open learning architectures. Bildung is a powerful tool to derive those competencies such as the ability to navigate or orientate oneself.

Despite this, LLL has so far been restricted to formal educational contexts (which rely on the classroom metaphor) thus neglecting to acknowledge the emerging open educational practices. Consequently, it is argued that in order fully capitalise on the power of Open Education, a mind shift concerning the underlying understanding of learning is inevitable.

### **An “enlightened” approach to LLL**

In keeping with the expanded perspective that has been briefly discussed within the concept of Bildung, this section explores an “enlightened” approach to LLL which is based on the following assumptions:

- Learning and Bildung are processes which are first and foremost pursued by the individual, i.e. they cannot totally anticipated and planned until certain skills or competencies are achieved in a pre-defined standard. However, “outside interference” is required to support and facilitate the learner especially in open complex worlds. This implies are changed role for teachers because there is a shift towards tutoring or coaching. Constitutive for this role is also a changed self-concept of the learner, i.e. the facilitator/coach should approach the learner with confidence based on the understanding of the unpredictability of learning and Bildung.

- Learning does not only take place in well-structured settings like seminars, workshops or other forms of LLL but to a large extent outside schooling and formal training in the so-called real life. To account for this “Lebenswelt” (a term defined by Habermas) would also help to overcome the prevailing LLL dispositive.
- Learners do not usually enter educational settings as a “blank sheet” but have developed various forms of knowledge, skill and attitude that need to be accounted for. There have been a lot of discussions to define and conceptualise the accreditation of prior knowledge, such as:
  - APL (Accreditation of Prior Learning) which is generally used as an umbrella term including both prior certificated learning and experiential learning. °
  - APEL (Accreditation of Prior Experiential Learning) refers to uncertificated learning gained from experience.
  - APCL (Accreditation of Prior Certificated Learning) means learning for which certification has been awarded by an educational institution or another education/training provider.

Moreover, political actors such as the EU have consistently argued that the accreditation of prior knowledge and competencies is a central enabler for LLL, especially for non-formal learning. Therefore, learners should be given opportunities not only to demonstrate that they have developed skills and competencies but also to capitalise on them in various ways (e.g. using Open Badges).

LLL is a precious commodity because it truly helps to raise awareness of the increased importance of education in a globalised and highly competitive world. However, it is equally important to rethink the way it is communicated by political and economical stakeholders. LLL is foremost a pedagogical topic, i.e. it is crucial to take note of the underlying philosophical conceptions that provide a much broader account of learning in the sense of a human property which can be described, in a slightly modified version of Watzlawick's famous principle, as the following: you can't not learn!

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## **The seduction of convergence between all with everyone and everything**

Carlos Fernández del Valle

*The development of Full Mixed Reality will give to everybody the opportunity to learn by doing, anything, anywhere, anytime. Also be registered and publicly certificate what they learned.*

### **Summary**

In 2030, the analogue natural world, and all layers of virtual realities, which replicates it technologically, will configure two adjacent parallel universes, and each operating fully, a Full Mixed Reality, in which people will be able to act interchangeably in, one, other or both, freely, with others and with the machines individually or collectively.

This Full Mixed Reality, trains people to act ubiquitously, and access knowledge in a practical, and fluid, for learning by doing it.

Be exploited for educational materials produced for other purposes: industrial, tourism, security ... continuous monitoring, counseling, and smooth passage from one reality to another, greatly facilitate the process of learning and improvement. Education tend to focus on the development of values and attitudes and the proper management of technology.

### **Glimpse of education in 2030**

Today the future arouses huge interest in all continents and in many cultures. Proliferate studies and publications on the future ... not in vain we all see that our society and technology are experiencing rapid change, to the point that we are about to experience major historic changes.

The future is always a projection of the present: imagine on the basis of what we know.

To this end we change ratios and proportions between the parts of our present reality: by example: flying car. Sometimes when we distort our reality, the new, appears between the cracks. So, to try to envision the New, started asking us.

Do we observe trends in our present? Which of these trends that we see today are called to develop, to diminish, to disappear? How fast will they? Will combine with each other? How? Can we extrapolate results of these trends?

We think we can find answers. So, before going on to describe the possible future, it is necessary to indicate that the conclusions we obtain, configure only one among many possible futures.

The changes bring the trends that shape our vision of the future, do not develop independently as plants. Changes that affect our social set, are the result of voluntary human choices. Education, as central element of our society, depends on our decisions, now, and that will be taken until 2030.

When we focus on the future, we are committed to making certain decisions ... in Europe, and also in other parts of the world, due to the mutual interaction between all ... because convergence is a central event in this process that we are already living intensely.

What trends do you see? ... instead of responding, we will make more questions

How is affecting us Genome Project? What are the achievements of the European project "Galileo" "Graphene" and "Human Brain"? What can we expect of the American project "Brain Activity Map"? Border ... in 2020 to 2025, according to estimates of their promoters practical results will apply.

These projects are emblematic, but the list is not complete, missing CERN, and many smaller ones. There are those in private industry, or those of other countries such as China, Japan, Korea ... certainly in 2030 things will not be like now.

We still do not know about the future.

No one doubts that in some ways will be different from our present and new materials and ICT (Graphene), the self (Human Brain and Genome), Geopositioning (Galileo, GPS2, Beidou). They will have more weight.

And so, slightly fitted, we specify a bit.

We talked about the massive virtualization of all types of information that will define a new coat of digital reality, mirror of our natural reality.

That is, in 2030 we will be working, actively and consciously in the replication of our biological reality to create a parallel digital reality.

We speak of progress towards a "strong symbiosis" with technology in our everyday lives, at the individual level and at the level of human groups in the whole world at once.

We believe that the line sets voluntary decisions that create this future will be guided by a powerful promise, that despite great difficulties, will not be rejected. The promise of "convergence among all with everyone and everything".

Compliance with the premise "convergence among all with everyone and everything" will mean the actual implementation of ubiquity for everyone, which means telepresence, unlimited space and with it the ability to interoperability, human-machine (work), machine-man (training), and human-human (share, advise, study), offshore of any particular place and of course naturally.

This will dominate the everyday reality in the year 2030. Regardless of their degree of implementation, and while it will be skewed depending on the area of the world where we are, there is a basic consensus on the desirability and the need for its implementation.

How will they do?

We expect a universal programming language, probably an evolution of the current HTML 5, data networks, ultra high speed, 5G or higher, ultra-powerful computers capable of supporting big data applications, expert systems, real-time systems, artificial intelligence systems, to consolidate and improve the current concept of the Internet of Things and the current semantic web.

We also expect the extension and generalization of the use of haptic terminals, custom avatars representation and management that will allow us to enter and exit the digital universe ...

Telepresence is a virtual presence that maintains the ability to act alone or share with others in work or learning environments, relocating our actual position, the place of our performance ..

The exchange with other means that our telepresence is not unique. This exchange takes place in virtual environments with other telepresence with whom you share not only information but actions. This requires that machines, systems and generally any entity that virtualized representation to find this common virtual space.

On this basis we will be able to "simulate" a broad range of resources multisensory immersive virtual environments able to improve performance and user retention. As we have shown, you can experience alone or accompanied by other "telepresentes".

These environments, for extraordinary visual quality, responses also provide sensory, tactile, auditory and olfactory experiences generating totally "real" to the user, allowing you to learn to level of experience, including bodily and gestural behaviors.

The new digital reality will be able to evaluate data neurobiological, cognitive, psychological and emotional responses and behaviors that will help determine the degree of learning of the users. Also stored user responses.

The presence of Avatars integrated into the fabric of the simulation allow the tutor to assist on-line or deferred to the different training sessions.

Resources for learning objects may have multiple sources, probably in the area of continuing education much of this information will come from the reuse of information used in the industry. For example the machine tool developers with such technologies simultaneously fulfill several functions:

- To provide value added service to its customers by providing instant assistance capacity of specialists to better match their needs ..
- Improve after-sales
- Assist in the day to day operation of the machine
- Contributing to the training needs.

... /// ..

This approach is extended to other areas ... for example information about a territory, of any kind, nature, culture, resources, is capable of multiple uses, in addition to training (guided visits a city and its monuments, by a natural ...) this information may be used in maintenance, monitoring, tourism ...

The ability to evoke virtual learning in the real scenario, fits learning to the real world, and the real presence or telepresence of the guardian completed the learning.

The results of studies on the activity of the human mind, will establish parameters and guidelines for assessment of human behavior much more accurate than currently, known ICT tools more powerful than today will be able to draw conclusions from the behavior of people, their use, learning, and many other aspects of his personality.

The conditions required to achieve a goal will be the result of consensus among claimants of the capabilities and certifiers, and probably the system without difficulty collect this information and make it available to those who need it at all times ... through custom avatars.

Profits are endless:

Historical scenarios, natural environments at any scale, micro, normal, mega ... scenarios applied to mathematics, physics, chemistry ... Technology will not be problem.

The discussions will center on the intensity of the application of these technologies in learning, how they are used and the guidance given to people.

The objectives of the initiative ATC21S, seems a good starting point

Ways of thinking: Creativity, critical thinking, problem-solving, decision-making and learning

Ways of working. Communication and collaboration

Tools for working. Information and communications technology (ICT) and information literacy

Skills for living in the world. Citizenship, life and career, and personal and social responsibility.



## **Synergy of Engaging Technology Enhanced Learning Approaches and New Generation Smart E-Portfolio Systems**

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*Open Education in 2030 in Europe might look as the synergy of engaging technology enhanced learning approaches and new generation smart ePortfolio system with collaborative group-working and comprehensive assessment environment which, equipped with artificial intelligence tools, would improve learning outcomes and suggest learners appropriate ways to achieve new competence levels based on analysis of acquired prior ones.*

**Keywords:** ePortfolio systems, competencies, technology enhanced learning, artificial intelligence.

### **Introduction. Statement of Demand**

New technologies change our habits, work procedures, leisure hours, communication opportunities, and our life. These changes bring new breath also in educational environment; educational paradigms switch over from teacher-centric to student-centric, from mainly individual to mainly collaborative interaction; learners are oriented on development of their critical thinking skills, enhancement of creativity, wider use of technology in knowledge acquisition process [Churches, 2010].

What actions should be done to make learning more effective? This question addresses many researchers and education subject matter experts. By virtue of new technology era and changing of educational paradigm, democracy features increasingly interpose learning process. With a positive effect which is gained by distance learning, i.e. technology enhanced learning, when a learner has several lists of learning courses to choose from and a possibility to audit and make learning more flexible, we have got also a side-effect.

This is a question due to too high drop-out rate among students. Forrester report states that only twenty-five per cent learners finish their e-learning courses [Quinn, C., 2005]. A situation in blended learning and hybrid learning seems a little bit better; although, it is also unpromising. This is why the course developers are seeking for appropriate advanced teaching methods to enhance learning [Koohang, A., & Durante, A., 2003]. Teaching staff ought to analyse learners' behaviour forms within e-learning environment and find suitable ways to engage and motivate them.

Some possible solutions were proposed in earlier findings. Thus, to make learning process more effective, it could be necessary to involve students into knowledge acquisition process by means of active engaging and motivating approach, find parallels in learning process with real-life situations, simulate tasks related to daily real-life activities, analyse the problem and find appropriate solution, act, think critically and reflect (find appropriate solutions)

[Bransford, J., D., Brown, A., L. & Cocking, R., R., 2000]; [Driscoll, M., P., 2002]; [Driscoll, M., P. & Carliner, S., 2005]. Real-life situations further improvement of critical thinking skills [Smart, K. & Cappel, J., 2006]. Collaborative learning methods are considered as powerful learners' engaging and learning process quality improvement instruments. Learners are encouraged for active participation in group-working, sharing and distributing own ideas, and creating new ideas and knowledge [Mitnik, R., Recabarren, M., Nussbaum, N. & Soto, A., 2009].

ePortfolio systems might be considered as the new effective competence enhancement instruments. They also have changed their nature: from simple showcase forms in the past to motivating workspace environments nowadays. These two different natures or faces of the ePortfolios indicate two different senses: ePortfolio as a product in the first case, and ePortfolio as a process in the second case [Barett, 2009]. Showcase form of ePortfolios still has prevalence. Nevertheless, more and more educational institutions look for more powerful end effective ePortfolio systems to improve learning outcomes. Reflection, critical thinking, ability to work in collaborative and tied to time settings are considered as important factors to be able to enhance own competencies. Excellent results might be achieved by „involving students in doing things and thinking about what they are doing” [Bonwell and Eisen, 1991]. Stimulation of critical thinking and reflection could be considered as a fine solution to meet the competence enhancement demands.

ePortfolios, initially devised as the show-window instruments, nowadays are changing to the important competence development systems. New ePortfolio systems ought to ensure appropriate engaging and motivating environment where learners could develop their competencies in the most efficient way. It might be done by active involvement of learners in collaborative group-working activities, tailoring tasks with real-life situations, encouraging students think critically and reflect on group members' suggestions and improve learning outcomes. Multi-level assessment tools within the system might allow track learners competence enhancement process and compare it against their study activities. First successful attempts to make ePortfolio systems more efficient were done in 2011-2013 at Riga Technical University; there were observed that ePortfolio system users' achieved competence levels had strong correlation with activities within the system, and it was concluded that 44,29 per cent of learners success was directly attributable to the usage of experimental information system [Gorbunovs et al, 2012 and 2013]. Prospective additional artificial intelligence instruments might solve lifelong learning needs and demands by offering learners appropriate learning courses and objects which correspond to their gaps and learning needs analysis.

### **The Vision and Proposed Ways of Implementation**

Competences might be represented as the sets of clusters containing a number of sub-competences (Gorbunovs, 2011):

$$a = \{a_1, a_2, a_3, \dots, a_n\} \quad (1)$$

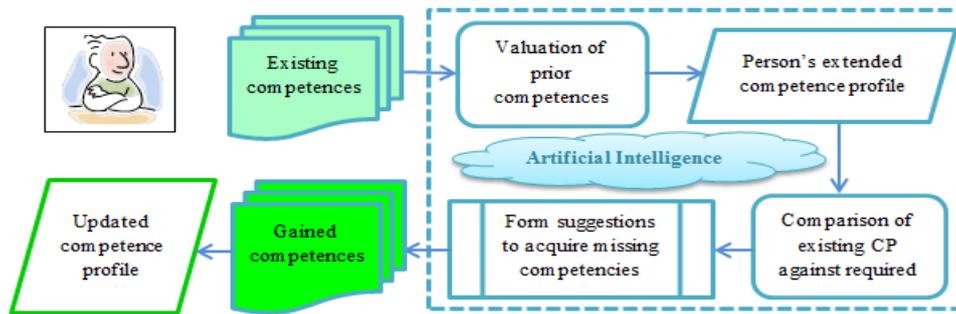
where  $a$  – considered competence;  
 $a_1, a_2, a_3, \dots, a_n$  – sub-competences.

This set of competences might be reformulated also in a matrix view. Similarly, each course theme and its learning object might be conceived as the set or matrix of corresponding weighted values. An acquisition of one theme or learning object leads to formation of the new matrix of competencies. For instance [Gorbunovs and Kapenieks, 2013], in a case if seven course related competences are defined for particular course, “m” theme's learning objects weighted values and obtained new set of competences might be seen as:

$$\begin{array}{c|c|c|c}
 \begin{array}{c} a_1 \\ a_2 \\ a_3 \\ a_4 \\ a_5 \\ a_6 \\ a_7 \end{array} & \times & \begin{array}{c|c|c|c|c|c|c|c}
 m_{11} & m_{12} & m_{13} & m_{14} & m_{15} & m_{16} & m_{17} \\
 m_{21} & m_{22} & m_{23} & m_{24} & m_{25} & m_{26} & m_{27} \\
 m_{31} & m_{32} & m_{33} & m_{34} & m_{35} & m_{36} & m_{37} \\
 m_{41} & m_{42} & m_{43} & m_{44} & m_{45} & m_{46} & m_{47} \\
 m_{51} & m_{52} & m_{53} & m_{54} & m_{55} & m_{56} & m_{57} \\
 m_{61} & m_{62} & m_{63} & m_{64} & m_{65} & m_{66} & m_{67} \\
 m_{71} & m_{72} & m_{73} & m_{74} & m_{75} & m_{76} & m_{77}
 \end{array} & = & \begin{array}{c} b_1 \\ b_2 \\ b_3 \\ b_4 \\ b_5 \\ b_6 \\ b_7 \end{array}
 \end{array} \quad (2)$$

where  $a_1, a_2, a_3, a_4, a_5, a_6, a_7$  – person’s initial competences;  
 $m_{11}, \dots, m_{77}$  – course “m” theme’s (learning objects’) weighted values;  
 $b_1, b_2, b_3, b_4, b_5, b_6, b_7$  – person’s competences after the “m” theme’s acquisition.

It might be assumed that particular theme or learning object initially ought to be weighted by assigning of appropriate rate to the theme or learning object. Based on learning outcomes after each course module in a form of tests, assessments and exam results, it could be useful to match them against initial (or previous) given rate and correct if needed. Such rate assignment possibilities ought to be studied further to make ePortfolio system smarter and enhance competence development (Fig.2). Integrated into the system artificial intelligence tools would allow analysing the usability of utilized learning objects in the course, and offering learning objects according to existing and required competencies within common system (Fig.1).

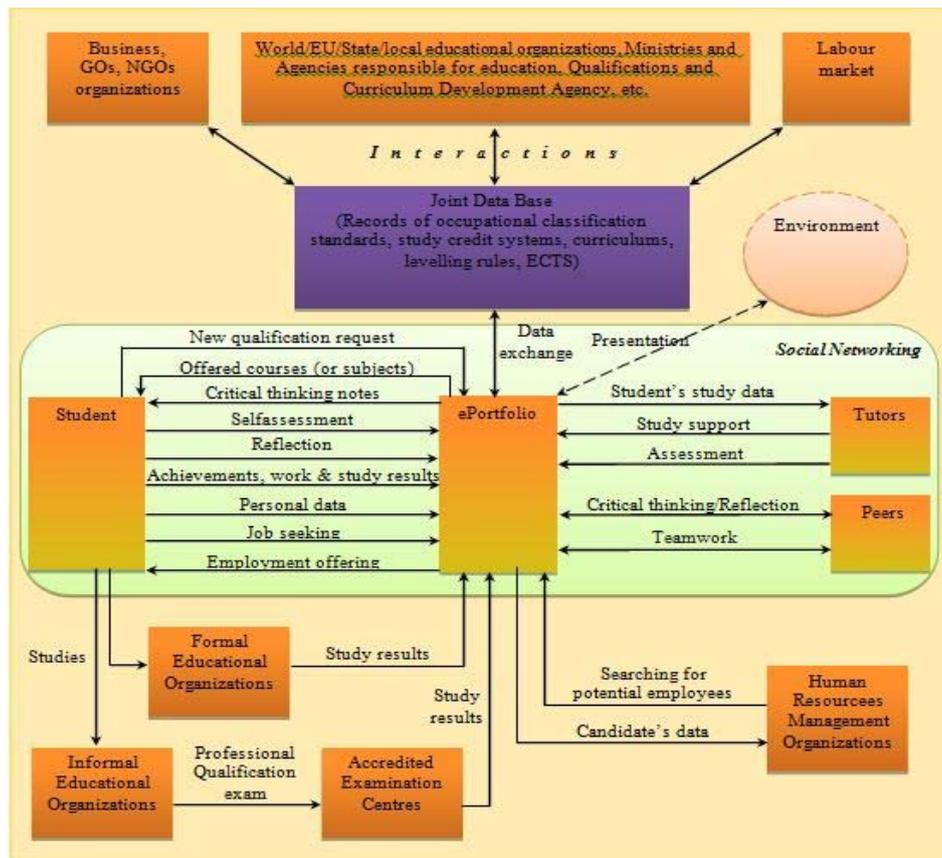


**Fig. 1.** Proposed smart ePortfolio system with artificial intelligence tools [Gorbunovs et al, 2012]

To implement these ideas we ought to think about a necessity to set one frame of mind and standards of competencies which might be based on list of professional standards or job/position requirements. Besides, there would be the necessity to define appropriate series of competencies and sub-competencies, as well their dependencies. Whole related data will be processed, classified, arranged, and calculated within smart ePortfolio system, and linked to prospective joint data base (with records of professional standards, credits, curriculums, levelling rules and so on) as shown at Fig.3. The system would ensure lifelong learning needs by helping people to gain new competencies or improve levels of existing ones, get new job or find appropriate employee.

Next challenge is to recognize informal education and training, and equate it with corresponding formal education courses. This initiative is still in early beginning, and a few accredited examination centres have a lot of work to tide over the levelling business of acquired informal learning. Connection of these efforts in common smart information system might help a lot.





**Fig. 3.** ePortfolio system artificial intelligence draft model [Gorbunovs, 2011]

## Conclusions

Open Education in 2030 in Europe might look as the synergy of engaging technology enhanced learning approaches (i.e., e-, t-, m-learning) and new generation smart ePortfolio system with collaborative group-working and comprehensive assessment environment which, equipped with artificial intelligence tools, would improve learning outcomes and suggest learners appropriate ways to achieve new competence levels based on analysis of acquired prior ones.

There are at least four main initiatives to be taken till 2030 to satisfy lifelong learning needs:

- 1) Real recognizing of informal education and training accomplishments, and equalizing / levelling them with corresponding formal education courses – efforts done in this area are still not sufficient. Recognition of prior learning is essential.
- 2) Setting one frame of mind and standards of competencies which might be based on list of professional standards. Creation of joint worldwide data base of competencies, „weighted” learning objects and courses.
- 3) Creation of the new generation smart ePortfolio system equipped with artificial intelligence tools which would analyse existing competence levels and suggest corresponding learning paths, learning objects and courses.
- 4) Integration of motivating e-, t-, and m-learning approaches into proposed comprehensive system.

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## **Future of Open Education: A Lifelong Learner's Vision through OERP 2030**

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*In 2030, learners and facilitators would give rise to a society made up of global democratic citizen, having values of respecting others, as they are, with the help of highly advanced technologies through sustainable practices involving public and private actors including the last learner of the society, too, through open educational resources and practices facilitating learning, throughout the life.*

### **Learners**

*Enrolment and support schemes:* Enrolment will be possible through mobiles, also, and would be automatized. While making entries in the forms the 'automator' will support throughout the form and would provide several options for lessening the chances of errors. Going through several automated suggestions, no mistakes would be made in the forms. There would be a single platform for all the similar courses. Once signed up for a particular course, information pertaining to all the institutes would be automatically received well in time through mobile/email/social networking sites etc. Temporal and information constraints would not be a problem.

*Peer learning and interaction:* In place of heavy devices like mobile, laptop, etc. learners would be using wrist-watches for interaction and all sorts of computer/web-enabled task would be pursued through a folding transparent screen fitted within the watches. Noises will have no place in peer learning and interaction.

*Learner-teacher roles:* Teachers would be simply learning managers through moderating, managing, configuring, correcting, and adjudicating the best possible learning open educational resources. Perhaps, the open educational resources would themselves be able to correct, manage and transfer them to the learners, while a certain set of instructions are programmed and given by the teacher. Teacher would be working, all the time, just to enhance the quality of produced open educational resources. Learner would be learning, throughout the life, based on the principles of the 'hole in the wall'. Learner and teacher would never come in face-to-face contact with each other throughout the entire course and sometimes may not know each other for the whole period and that would be very challenging.

*Learning practices and outcomes:* Most of the learning, throughout the life, would be automated, machine-driven, machine-managed and automated. The entire burden would lie on the high quality open educational resources. Learning practices would be focused on not just exploring the open educational resources but the highest quality open educational resources. Learning, throughout the life, would be a fun and learning practices would not be emphasizing on the memorization or rote learning. Knowing the figure and facts would not

make any difference in learning, throughout the life. Learning, throughout the life, will be meant 'how' and 'why'.

*Linking formal and informal learning:* Since, most of the learning, throughout the life, would be ubiquitous and through wrist-watches, hand held devices etc. there would be no formal system of learning, throughout the life. Learners would be learning, throughout the life, at their own pace, at the time when they decide, at the place where they are comfortable, courses and subjects which they feel interesting and joyful, there would be no place for the formal system of education. Learning, throughout the life, would be for the learner, by the learner and to the learner. There would be no concept of 'power hierarchy' as learners and peers would play significant role in evaluation, grading and final accreditation.

*Learner engagement and motivation:* Learning, throughout the life, would be driven by self-motivation. A high quality of open educational resources would engage learners in a better way than that of the teachers. A 'whole in the hole' (everything in the screen fitted in the hole of the wrist-watch) principles would not only engage learners all the time but also ease of access would create a sense of attachment to the learning process.

## **Teachers**

*Teacher-learner interaction:* Teacher and learner would interact in a temporal-free, spatial-free, bias-free and idiosyncratic-free environment. The culture variability will have no meaning; the language will no more be a variable. A democratic and learning-friendly environment would be generated, where caste, class, strata, creed, race, religion, colour, language, gender, locality will have no hamper on the learning, throughout the life. No system made for learning, throughout the life, will ask information like gender, etc. A teacher would be a teacher, not a male or a female, and a learner would be a learner, not a male or a female.

*Teacher training and collaboration:* Teacher training aspirations would be totally changed. A good teacher training course would be the one which can turn a person to generate, manage, moderate and configure open educational resources with high quality. The quality manager of learning open educational resources would be a good teacher. Since all the open educational resources would be generated by learners, teachers would be learning, throughout the life, to enhance their quality, maintaining the quality and manage such open educational resources under different domains so that learners can easily access them as per their need. The best set of teachers would be having best possible collaborations consisting of teachers from various streams, disciplines and domains. They would be collaborating to manage and correcting the open educational resources keeping high quality with respect to not only a single subject but the open educational resources sound with respect to all the subjects altogether and simultaneously.

*Pedagogical methodologies and practices:* Pedagogical methodologies and practices would be limited to managing the learning through learning open educational resources. The evaluation part would need better quizzes, questionnaires, tests, rubrics, etc. which would be developed with the help of learners. The methodologies and practices would be learner-driven than the system-driven or teacher-driven.

*Quality and innovation:* The innovations would be guided by the strategy for conveying the best possible open educational resources with maximum ease in most learner-friendly version in minimum time in the lightest mode to the learner. Continuous and comprehensive joyful learning, throughout the life, would be at the centre while quality of open educational resources and innovative practices are decided.

*Content and scope of “teaching”:* Teaching would be entirely replaced by the facilitating and managing. Facilitating the learners and their learning, throughout the life, by managing the quality open educational resources as per the need and interest of the learners would be the prime focus and prime vital task of teaching. The teacher at one place would be a learner at other place. In other words, the dividing line between the teacher and the learner would be diminished.

*Teacher engagement and motivation:* Teacher will be highly motivated as they would not have to waste their energy in ‘non-teaching learning’ activities due to absence of problems pertaining to formal system of education. Absence of face-to-face interaction would save them from several un-academic problems and threats. Hence, they would be more enthusiastically and energetically engaged in the teaching-learning activities. The motivation would be from within and environment would help them continuing keeping the same at high level.

### **Organisational aspects**

*Business and sustainability models of Open resources and Practices:* Open educational resources would be developed by all, managed by lesser and moderated by the least. Since all would develop OERs, the cost of developing and availability would be the least. The companies would require people just for developing new softwares or platforms. As the resources would be generated by the participation and devotion of all, these would be highly sustainable. Public generates most of the resources not for financial gain but for name, fame and recognition. Thousands of android softwares support this phenomenon. Hence lack of high cost would make it more sustainable.

*Interaction between public and private actors:* Public funding would be provided to private actors for developing more learner-friendly softwares and platforms. And private actors would be consistently and continuously interacting with the public actors for the need and demands which could benefit the mass level. Public would decide the needs and targets and private actors would endeavour to achieve those.

*Interaction between different educational centres / institutions:* Different educational institutions would come closer to give rise to a common platform for collaboration of courses, interaction, OERP, degrees, evaluation, etc. The individual identity of institutions would merge to generate a new identity to the group of similar institutions. The institutions would be steam based or discipline based rather than all the streams at a single institute.

*Assessment, recognition, and certification:* Most of the assessment would be done by machines. The certification, alongwith the learning, throughout the life, would be free and open in its true sense. The degrees and awards would be universally recognized. Certification would be highly specialized as per the skills and learning, throughout the life.

*Curricula and Learning Objectives:* Curricula would be highly refined through dynamic ratifications and possible modifications. Learners would be a part of curricula development. Needs and demands of the learners and society would be the predominant factor for the changes in curricula. Learning objective would be develop a global democratic citizen trusting in the values of live and let live free from the concept of caste, creed, race, gender, class, religion, etc.

*Technological aspects:* Technology would be highly advanced and would be accessible to all with the ease of reach even to the last learner of the society. Wrist-watches would decrease the need and demand of heavy and big devices. Foldable screens would be found everywhere. Public money would be invested for technological advancement and availability of highly

advanced devices and instruments under 'TFA' (Technology for All) likewise 'EFA' (Education for All).

### **Socio-economic aspects**

*Equity and equality:* Equity, equality and democracy would get a higher place in the society. Technology would make all equal and bias-free. Technology would give all an equal-opportunity environment. Quality would be generated through consistent refinement of resources through massive and engaged collaboration of all.

*Addressing emerging skills and business needs:* The most demanding skill would be exploration for learning, throughout the life, with the optimum utilization of available resources within the minimum possible time. Multitasking would be a habit. People would not mind if others are busy in interacting with others for teaching and learning, throughout the life.

*Fostering employment, active citizenship and inclusion:* People would be manifested into global democratic citizens having respect for others irrespective of caste, creed, gender, etc. They would be well aware of their duties and expected behaviours with others. All would have equal rights and equal opportunities for inclusion in the mainstream due to technological advancement. People would generate their own employment by developing better opportunities for facilitating learning, throughout the life, and learning platforms alongwith the educational resources.

*Impact on the market structure:* Market would be learner-friendly. Cost for softwares and other resources would come down. Market would be public-needs driven. Government would look after the consumption of high quality educational resources arriving in the market.

*Legal issues (IPR, copyrights):* Copyrights would give all sorts of freedom except the acknowledgement and clear referencing. One would be able to copy, modify, change, regenerate, reuse and even sell also, but a proper acknowledgement would be a must. Since everything would be free, it would demotivate selling of the secondary resources. Less legal issues and conflicts would arise as everything would be 'open'.

### **Summary**

In 2030, learners and facilitators would give rise to a society made up of global democratic citizen, having values of respecting others, as they are, with the help of highly advanced technologies through sustainable practices involving public and private actors including the last learner of the society, too, through open educational resources and practices facilitating learning, throughout the life.



## A Future of Learning

Federico Pistono

*By 2030 the sum of all human knowledge will be openly accessible by anyone, regardless of their age, language, geographical location, or financial status; effectively taking down most if not all barriers towards an open, collaborative, peaceful, and prosperous society. People will be learning throughout their whole life, and every day they will discover the blissful joy of finding out new things, learning new skills, and participating in projects together with other passionate individuals.*

It's the year 2030. Hundreds of thousands of schools, universities, professionals, and passionate experts in a variety of fields have their courses available online, for free, for anyone to use.

Courses are fully immersive experiences, where virtual environments are blended together with physical ones, utilising all our sensory perception to enhance the act of learning and engage students of all ages and interests.

Sophisticated AI smart assistants allow anyone to have their own “digital Aristotle” (in the spirit of Alexander The Great) – a personalised mentor that follows their learning path and directs them, helping them navigate the immense sea of wonders to discover, to expand their horizons, and to maximise their potential and enjoyment.

Billions of people are actively engaging in the act of learning, from young children to grandparents. Physical barriers have become less and less relevant, as anyone can join the global conversation.

Students can decide to study and work by themselves, or to join teams where like-minded people share their passion. There are no classes as we used to conceive them twenty years ago, but rather groups of people who want to work together towards a common goal, regardless of their age, language, or financial status. A 7 year-old in Bulgaria could be working on a physics project with a 54 year-old in France, utilising the immersive virtual learning environment; or they might decide to join one of the many local study groups and schools close to where they live for genuine physical interaction. Teachers and parents have become mentors, helping the young minds begin the process of learning.

Anyone is free to pursue their passion and their dreams at any level, and technology enables the elimination of barriers that once prevented people from doing so.

Achievements and rewards are also very different from what they used to be. There are no grades, and the ruthless competitive attitude is perceived as a distortion of values, an aberrant behaviour. The best students are not only those who achieve the best individual results, but also those who can be the best mentors, the best collaborators, the best guides. Those who help others the most are respected and are seen as role models; this creates a virtuous cycle that benefits the whole of society and it's reflected in the workforce as well.

Every student has a personal profile of achievements, which ranges from individual learning, involvement with the community, discoveries made, mentorship experience, project management, conflict resolution, and their ability to bring people together.

Students and learners of all ages work together, and this has created a better society, because we learn to respect others from a very early age, interacting with people of different experiences and views of life. We now live in a strong, diverse, and resilient society, the basis of which is a scalable, capillary, and engaging educational system.

It's the year 2030. Humanity has never seen such a cambrian explosion of creativity, innovation, and collaboration. The new minds joining the global conversation help create new solutions to the ever-changing world and the challenges that it brings.

The future looks brighter than ever.



## **Pervasive Education**

James Richards

*A near future that offers open technical and pedagogical infrastructure, will bring unprecedented opportunities to deliver 'pervasive education', allowing us to access learning orientated content experiences wherever we are and whenever we want.*

*An exploration of the future where open pervasive, technical and pedagogical infrastructure, allows us to access learning orientated content experiences wherever we are and whenever we want.*

In the near future it's possible to predict scenarios where ubiquitous open technical frameworks along with powerful mobile devices and a constellation of rich media content experiences combine, to offer the prospect of a pervasive education. The vision for this future is one where sensors and mobile devices are able to reliably deliver content experiences and learning content that is sensitive to the situation of the learner. This sensitivity could include an awareness of location, perhaps delivering a longer learning object to an individual who is in the home, than one who might be out of the house and traveling.

The learning object might know something of my specific learning needs or my particular habits of learning. It might for instance dynamically configure content to me based on what it understands of the learning objects that I have already encountered, perhaps even taking into account data that describes the time that I took to engage with a learning object or a score from informal testing or gaming scores.

A pervasive education future allows the easy and ambient access of learning content which can be both authored and prescribed by education hierarchies, but can equally be learner-generated prioritised within a selection of available media, by the approval and rating of the learners themselves. This social recommendation allows a further refinement of the content offers, to accommodate the particular learning outcomes of individuals, for instance including the need to re-skill in order to get a better job to to learn a particular technical vocabulary in a foreign language.

Pervasive education offers an opportunity to use digital media to augment a learner's experience of the real world and vice versa. Learners will be enabled to use everyday devices to explore the world around them, in the process unlocking informal learning content and a world of stepping stones within varied lifelong learning journeys.



## Open Education – Towards 2030

### Lifelong Learning

Derek Tatton

*Despite the economic crisis and financial restraints, informal adult learning networks are using interactive technologies to develop new forms of education-for-citizenship processes and courses to address big 21st century social, political, philosophical and cultural issues.*

*Adult Education*, as it used to be called in the 20<sup>th</sup> century, was often state-subsidized and rarely free- of-charge for ‘adult students’. Looking ahead to 2030 we need a vision which connects back with the best of that *adult education tradition* including workers’ education projects; ‘education for social purpose’; ‘liberal adult education’; residential courses and opportunities as in ‘Folk High Schools’ or ‘People’s Residential Colleges’ in the Scandinavian countries, and other major successes like the *Open University* in Britain. Many of these adult educational programmes focussed on *education-for-citizenship* issues.

These notes refer to developments linked to the Raymond Williams Foundation (RWF) ([www.raymondwilliamsfoundation.org.uk](http://www.raymondwilliamsfoundation.org.uk)) which - although small-scale - through growing networks using e-mail and web technologies indicate potential for a ‘back-to-the-future’ radical vision for lifelong learning.

William’s last substantial theoretical work, *Towards 2000*, (published in 1983), included this prescient statement: “The new interactive technologies could transform (the problems of travel and funding) by providing regular facilities for consultation and decision from people’s own homes... This could be, in practice, the achievement of full social and cultural powers by civil society, as opposed to their appropriation or marginalisation by the corporations and the state.”

The extraordinary growth of ‘people power’ campaigns and petitions through *avaaz*, *38 degrees*, and other web-based ‘movements’ can connect to the many informal ‘face-to-face’ meetings in pub/cafe/bar discussion circles which in the last ten years have proliferated. Our own RWF network currently includes *Philosophy in Pubs* (PiPs); *Discussion Circles* (DCs) on big social, political and philosophical issues; *Sci-bars*, where scientists discuss their work informally; *café philosophique*; *Workers Educational Association* (WEA) and *University of the Third Age* (U3A) groups on similar themes. A key feature of PiPs, DCs, Sci-bars is their total flexibility and free-of-charge operation and methodology (*anarchist practice* in the best sense).

In recent years the weekly/monthly meeting groups, some of which use web and media resources for stimuli and ‘expert’ resource information, have extended their education and learning with short residential weekends and mid-week courses to follow through in larger gatherings at conference centres, residential colleges and hotels. These have engaged with issues such as *The Communications Media*; *Philosophy and Contemporary Political Theory*; *Democracy – and the future of political parties*. All have been promoted by, and informed through, web, e-mail and skype links.

These residential courses have been subsidized by RWF to enable participation from across a wide spectrum ensuring viability, with attendances from twenty to seventy in northern England. In this way, the 'education for social purpose' of late 19<sup>th</sup> century and early 20<sup>th</sup> century pioneers can now be extended, despite the economic crisis and restraints, using the flexibilities of voluntary organisation and technological innovation. This is one important way to move forward, *Towards 2030*.

## Part 3: Discussion Papers

This part is work in progress. We will publish here all papers that argue for a vision on Open Education in the field of Lifelong Learning and comply with the call specifications, but have been submitted after the deadline. We hope that more people will be encouraged to submit their visions and become part of the lively debate. So far we have only received one paper:

*Jan M. Pawlowski* argues that to remain successful on the global educational market, Europe needs to engage a broad community in cross-border collaboration towards better education and global outreach.



## **Global Open Education: A Roadmap for Internationalization**

Jan M. Pawlowski

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*To remain successful on the global educational market, Europe needs to engage a broad community in cross-border collaboration towards better education and global outreach.*

### **Introduction**

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The main goal of this paper is to stimulate the discussion on **future issues on Open Education** and Open Educational Resources (OER) in a mid- and long-term perspective. The main issue discussed is **how OER are utilized on an international level**.

Open Educational Resources are a hot topic in the communities of education and training – the idea of sharing free and/or open resources has led to various policy and research initiatives such as the EU program on Opening Up Education (European Commission, 2012) and the UNESCO Paris OER Declaration (UNESCO, 2012). However, there is currently no clear view which steps are necessary to bring OER into practice and what the impact on educational systems will be.

**Internationalization and global collaboration** is a key aspect to Open Education: how can OER be utilized across borders? How can OER contribute towards better education for less developed countries? How can Open Education contribute towards better collaboration in Europe and globally? These are just some questions to be explored and solved in the next years.

As a starting point, we have identified a **variety of barriers** (Clements & Pawlowski, 2012, Pirkkalainen & Pawlowski, 2013) towards acceptance of open education and OER, amongst them: Lack of trust, lack of curriculum integration, lack of IPR knowledge, fear of imitation, lack of policy support and many more. Even though Open Educational Resources (OER) as well as Open Educational Practices (OEP) are promising concepts, they are – in contrast to Open Access or Open Source – still far from being mainstreamed. However, the potentials are clear, in particular for cross-border utilization. Thus, I would recommend two key visions:

- 1. Creating a European Open Education community towards collaboration, mutual support and participation.*
- 2. Creating global outreach of European Open Education towards European leadership in both, the educational market and development cooperation.*

This paper aims at identifying key issues and potential solutions for international aspects regarding open education. Using a roadmapping methodology, I will propose steps and recommendations for advancing Open Education.

The initial phase of the roadmap aims at creating a solid base for European collaboration and global outreach. Currently, educators and learners have no clear understanding on 1) availability of OER for their context, 2) benefits of OER, 3) possible engagement. There are no central access points across Europe and no policies in place, both on national and institutional level. Community building across Europe is still weak. Furthermore, global outreach is not part of most relevant European programs (such as LLP and PSP programs). As immediate actions, current key barriers need to be addressed, in line with the recommendations of the UNESCO Paris OER Declaration (2012):

### **Recommendation 1 - Create an inventory of OER and OEP in collaboration with national and institutional stakeholders**

It is highly necessary to understand which OER and OEP are available in different regions and languages. Stakeholders need a clear understanding which resources (OER) are available, how they are utilized (OEP) and how people can benefit.

### **Recommendation 2 – Integrate existing communities across Europe**

It is highly necessary to invest in community building to increase collaboration and partnerships. This recommendation is not about creating new communities but integrating existing partnerships across sectors and domains, such as collaboration networks (e.g. e-twinning), sector networks (e.g. European Schoolnet), domain-specific networks (e.g. associations) and related communities (e.g. Open Access, Open Source communities).

### **Recommendation 3 – Integrate Curricula**

One of the key barriers is not necessarily the lack of resources but a lack of knowledge how to find suitable resources for specific curricula. There are currently no possibilities to search for specific curricula parts. This means that curricula must be mapped against each other as well as to OER. This also includes technical aspects such as availability of machine-readable curricula and availability of curricula metadata.

### **Recommendation 4 – Create regional networks**

Curricula and language barriers need to be addressed. One possible strategy is to encourage collaboration in regions which are similar in terms of culture and language (e.g. Nordic countries – for example see the Nordic Open Education Alliance<sup>45</sup>). These regional networks can act as starting points and good practices for cross-border collaborations.

### **Recommendation 5 – Create Global Outreach Programs**

Europe has not yet succeeded in creating broad global interest in their educational resources. The current MOOCs are mainly created by US universities, development collaborations are isolated activities. Therefore, each program and project should be encouraged and enabled to include global partners (e.g. in less developed countries).

### **Recommendation 6 – Support Open Education Policy Building**

The above mentioned aspects need support through policies from educational authorities and institutions. This needs to be encouraged and supported from a European perspective.

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<sup>45</sup> <http://www.nordlet.org/?q=position>

The above mentioned recommendations create a basis for European collaboration and outreach – these recommendations are complete but shall serve as a starting point for creating policies, programs and projects as a strong basis for internationalization of Open Education.

## **Open Education 2015-2030: Research Focuses**

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The second phase of the roadmap aims at identifying research issues which support internationalization, collaboration and outreach based on existing concepts and technologies. Most supportive technologies to advance open education already exist. However, there is usually a broad gap before advanced technologies are taken up in education / educational institutions. This phase therefore aims at utilizing and mainstreaming promising technologies while exploring emerging technologies. The selection of topics below is based on an analysis of key trends and research initiatives at the moment – it does not intend to be exhaustive and complete but provide input for discussions.

### **Contextualized Open Online Courses**

MOOCs are discussed around the globe. However, they mainly serve as marketing for top universities or new business experiments leading to an average of 90% dropout rates. Contextualization of online courses is one of the key to bring this immature concept forward – Europe could be a forerunner of provide contextualization and support services to the general MOOC concept.

### **Cultural and language adaptation**

Almost no OER are available in all European languages. However, automatic translation, multi-lingual metadata ontologies and understanding of cultural adaptation needs have progressed in the last years – large scale projects of cultural adaptation / contextualization are needed to create more insights for this process towards better support. Furthermore, new aspects should be explored such as simultaneous automatic translation (in combination with related topics such as speech recognition) using new devices (see below).

### **Cross-border collaboration**

Even though many communities exist across Europe, support mechanisms for the educational domain are rather weak. Very few teaching scenarios include cross-border collaboration and corresponding support tools. As an example, it is necessary to encourage focused research on utilizing different social software instruments to overcome cultural and language gaps. This should be accompanied by creating cross- and inter-cultural distance learning strategies and scenarios. This will help educators to extend their learning scenarios outside the classroom towards multi-national, virtual classrooms.

### **Global OER outreach and Education Generics**

Each research project on open education should consider global outreach, either to create new business opportunities but also to support development collaboration. This includes the above mentioned cultural as well as technical adaptation / contextualization. Furthermore, it could be discussed how commercial content providers could provide simple / cheaper versions of their materials in development collaboration (as an equivalent to the pharmaceutical industry).

### **Ambient Intelligence / Internet of Things**

Location-based learning solutions have been rather successful already – as a next step, I see a rather wide distribution of Ambient Learning solutions: How to embed learning resources in real objects in real contexts / situations. These solutions need to be improved and

mainstreamed from perspectives, technological development as well as didactical scenarios. However, it is rather realistic to predict that in the future most objects (such as machines, art works, appliances, houses, ...) will be able to offer learning scenarios accessible by different devices.

### **Augmented Reality / Holographic Displays**

With recent advances on wearable computing and augmented reality, new communication opportunities will emerge. These should be discussed in the educational context – this also includes combination of real and virtual artifacts.

### **Big Data in Education**

With new devices, many new educational materials will be generated by users (e.g. live recordings of lectures with wearable devices, documentation of learning groups through live video streaming, ...) – similar to current trends regarding learning analytics, it will be necessary to utilize new techniques to filter and contextualize massive amounts of user generated raw materials which might be utilized for as OER / OEP.

### **Summary**

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The current situation regarding Open Education is promising but needs clear immediate action towards mainstreaming and outreach. This paper has identified recommendations for current actions as well as for future research. As a next step, it is intended to enter the discourse on those suggestions and to transform ideas into actions.

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# Open Education 2030

## Contribution to the JRC-IPTS Call for Vision Papers

### Part I: Lifelong Learning

Work in progress: 9 April 2013

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