Discussions on Learning in Online Networks and Communities

Notes from the validation workshop of the study on
Innovations in New ICT-enabled Learning Communities
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Acknowledgements

Executive Summary

This report brings together the main messages from a workshop held to validate the results of a study on 'Innovations in new ICT-facilitated Learning Communities'. A large and an increasing number of people live in an environment where informal digital networking plays an important role in their being aware, finding information, sharing and learning through connecting with other people. Not all online networks are communities, but learning can take place in various networked and collaborative settings where people can access, connect and participate.

Participation in online spaces and communities is driven by pleasure and curiosity. There are different ways to participate and not all the activities necessarily lead to learning. However, evidence shows that a variety of new skills can be learned and nurtured in these settings, such as engagement, problem solving, communication and collaboration. Learning takes place in informal peer exchanges and is not necessarily recognised, even by the learners themselves. Experiences show that it may be difficult to apply these types of approaches in formal learning settings, or access these spaces and tools for formal purposes. There is a risk that formalising or measuring informal processes changes their nature and their results.

It is difficult to discuss the informal learning which takes place in the new collaborative online settings, as there is not much research, terminology or knowledge about the topic as yet. In communities, people identify with each other as they have the same interests, experiences, and objectives and they commit themselves to a joint purpose. These environments enable people to learn situated knowledge and develop their identities as practitioners, and also develop and exchange experiences and culture with others.

Horizontal collaboration is important for developing innovations and knowledge, but may be restricted by structures and limitations imposed from outside. The tension between freedom and accountability will always exist. There is a need to find balance between horizontal and vertical enablers of innovation, as well as to allow and integrate both formal and informal learning. Formal educational curricula and assessment should be reconsidered in order to allow the development of a range of competences which could be demonstrated through, for example, project work and its results.

Participation and successful learning through online collaboration is available only for those who are digitally fluent, and aware of and prepared for these opportunities. It is important to take into account those who are not accessing them or do not have sufficient critical knowledge and help these people to use them safely and productively. People with lower education levels need special support to be equipped with the skills and confidence to benefit and value learning in these settings. Formal education should prepare people from early on to take part in a world where their knowledge will become practice through experience with others. Several suggestions for were made in the workshop as to how different stakeholders could support Education and Training systems in Europe to:

- Acknowledge the world people are living in outside and after school, and the skills needed for it,

- Prepare students for this world from early on, so that they can continue lifelong learning in it,

- Find ways for institutions to interface with and benefit from these informal learning settings.

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1. Introduction

Social computing usage has been growing very fast and, as a result, people now have many opportunities to use internet for collaboration and interaction instead of simply for information searches and individual activities. Already two-thirds of the world's Internet population visit social networking or blogging sites. These activities account for almost 10% of all internet time, and are overtaking the time used for personal email applications. Furthermore, time spent on social network and blogging sites is growing more than three times the rate of overall Internet growth. Globally these activities already account for one in every 11 online minutes – in Brazil, even one of every four minutes and in the UK, one in every six minutes.

Online collaboration and networking is a significant phenomenon, which has enabled new ways of being part of a network or a community. IPTS[1] has been studying the challenges and opportunities of ICT for learning, innovation and creativity with several research projects as part of its research for policy support.[2] In order to explore the impacts of social computing on learning, IPTS launched two projects with DG Education and Culture of the European Commission: 'The Impact of Web2.0 innovations in Education and Training,'[3] which focuses on formal education, and 'Innovations in New ICT-facilitated Learning Communities,'[4] which explores collaborative learning in informal settings.

This report is a part of the latter project, where the main research question is: what contributes to the emergence and success of learning in ICT-enabled communities, and how can they promote quality and innovation in lifelong learning and education systems in Europe? The project aims to review and assess innovative social and pedagogical approaches to learning that are emerging in new ICT-facilitated networking settings, and propose avenues for further research and policy making.

The project "Innovations in New ICT-facilitated Learning Communities" is composed of the following elements:[5]

a) Literature review and analysis on research, data and resources relating to learning in online informal collaborative settings,

b) In-depth case studies of 12 communities,

c) Validation workshop with experts, discussing (a) and (b) and developing further insights, and

d) Synthesis and analysis of the research results, leading into the final report of the project.

This document reports on the c) validation workshop, providing an overview of the discussions that took place from 31 March to 1 April 2009 at IPTS, Seville, Spain. The report does not aim to summarise all the interim research results that were discussed, nor all the presentations made at the workshop. Rather, it is a structured account of the discussions and main messages that were raised during the workshop, presented in the order of the workshop session topics.

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[1] Institute for Prospective Technological Studies, one of the seven research institutes that make up the Joint Research Centre of the European Commission

[2] An overview of the IPTS research on ICT for learning: http://is.jrc.ec.europa.eu/pages/EAP/eLearning.html

[3] http://is.jrc.ec.europa.eu/pages/Learning-2.0.html

[4] http://is.jrc.ec.europa.eu/pages/EAP/LearnCo.html

[5] All the research reports of the project will be published on the above mentioned project website

2. Rise of new online spaces and communities for learning

This session aimed to set the context for the workshop by describing the rise of social computing, the different types of online collaborations (networks and communities) that are emerging, and to give examples of participation motivations and activities. First, the presentation pointed out that social computing is a significant phenomenon, among all age groups of internet users:

According to Preece (2000), an online community consists of:
- *People*, who interact socially,
- A shared *purpose* that provides a reason for the community,
- *Policies* that guide people's interactions,
- *Computer systems* to support and mediate social interaction and facilitate a sense of togetherness.

In networked online spaces, collective actions also follow from individual activities possibly without a 'shared purpose' or a 'sense of community'. These networked individual efforts can also contribute to learning and are worth exploring. After discussing different types of online spaces and communities and the activities they host, the presentation concluded:
- Online spaces are of increasing importance in people's lives,
- Not all online spaces foster communities, but they can nevertheless support learning,
- Through online networks and communities people can find out, follow and participate much more than was possible before,
- Online spaces and communities can be approached by discussing the participation motivations and supported activities (production, topic-related interaction, socialisation),
- Both communities within organisations and open communities have important features,

- It is worth discussing the possible and foreseeable goals and means in educational institutions i) to develop closed online communities (learners, teachers), ii) to develop participation in external online spaces and communities, iii) to develop horizontal communities, iv) to recognise online spaces and communities worth supporting.

Various reactions to the presentation were expressed in the discussion afterwards. It was argued that, discussing 'communities' is not enough, as there are also looser forms of participation, and perhaps the term 'networks' would be useful. There is a difference between online networks and communities which share and create practice (this debate continued throughout the workshop and will be reported in more depth in the next section).

Difference in the motivation to learn. A major difference between learning in schools and outside is motivation. Outside school settings, people engage in learning related activities because they themselves want and choose to do so. The ethos is completely different, based on pleasure and curiosity. But we cannot assume that all young people would be interested in, nor have the competences to engage with, productive learning in networked settings. Furthermore, there is an important distinguishing factor between students in initial formal education and professionals, as the latter are more often interested in improving their skills on specific issues.

Participation vs. learning. Participation in communities and being engaged in their activities does not imply learning in itself. Different levels of participation mean different things – people who are actively creating may have a very different learning experience to those who are only reading. Studies show that the majority are often only reading. Implementing online networking for formal courses does not automatically lead to students being more engaged and enjoying their learning. Sometimes people may just jump into doing things, because they can, without thinking, planning or reflecting on the activity. Discussing schoolwork online may become simply plagiarising and getting by easily with a given task.

Applicability of informal approaches to formal. Experts raised concerns that the learning and activities in which people are participating in online communities and networks cannot necessarily be combined with organised educational activities. For example, it may be difficult to apply the engaging and interesting approaches which currently invite people to learn skills through activities in World of Warcraft (WoW) to learning linear algebra. Some learning always needs hard work and is not necessarily fun. It is important to consider why and where new models and tools would be useful and beneficial.

Danger of formalising informal life. It was suggested that if educational systems wish to benefit from the informal networking and the learning effects that arise in online spaces for collaboration, they should not create new ones but co-inhabit the several spaces already available for and used by people. However, there is a question of 'our' and 'their' spaces, and these borders are not necessarily easy to cross, as students might not like others to 'invade' their space. Experiences show that although students may participate in, for example, wikis in their free time, they may stop wanting to 'share their brain' if their activities are then assessed and marked. Changing a speaking community to writing (as is the case in online communications) can change power relations and what people want to share, making them more protective. Personal learning environments could be a tool to allow people to create their own learning environments and multi-memberships according to their choice, enabling wide learning communities to form.

These first discussions also raised topics relating to learning outcomes and factors. These comments have been incorporated into later sections in this report.

3. Communities of practice

This session included a presentation by Etienne Wenger and a discussion with him on social perspective of learning and communities of practice.[6]

Figure 1: A social perspective of learning in practice (Source: presentation by Etienne Wenger)

Using the concept of Communities of Practice (CoP) is based on a large learning theory (see Figure 1). The learning theories came out before the emergence of the web. It is important to consider what they mean and how technologies affect them. It was suggested that the web has changed the landscape for understanding community and identity. Horizontalisation is emerging in parallel in theories, technologies and practices. Trends that are shaping technology and community include:

- Fabric of connectivity – always on, virtual presence,
- Modes of engagement – generalised self-expression (e.g. blogs), mass collaboration, creative re-appropriation,
- Active medium – social computing, semantic web, digital footprint,
- Reconfigured geographies – homesteading of the web, individualisation of orientation,
- Polarities – togetherness and separation, interacting and publishing, individual and group,
- Dealing with multiplicity – competing spaces, multi-membership, thin connections,
- New communities – multi-space, multi-scale, dynamic boundaries, social learning spaces.

Communities can be set up by emphasising different aspects, such as developing a common identity, or facilitating easy connectivity. However, online communities often emerge bottom-up. For example, a community emerged from the Buddhists who wanted to make sure that pages relating to their religion are well represented in Wikipedia.

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[6]   More information of Wenger's work can be found at http://www.ewenger.com/

Nature and learning of practice. Professional education should take into account the fact that the landscape of practices is complex. A body of knowledge is more than a list of topics in a curriculum. It is created through inter-connected practices, which define what 'teaching', 'nursing', or 'mathematics' is. There needs to be both core and boundary learning, i.e. learning both in-depth topic-specific knowledge and also how it links to other topics and areas. Practices are not implementation of policy but improvisation that takes policy, research and other aspects as inputs. Good workers are not the ones who are good at complying but the ones who are good at engaging. This has been easier for businesses to take up than schools.

Meaningfulness of learning. Current educational practice was criticised for putting too much emphasis on the mechanics of learning and not on meaningfulness and meaning making – i.e. what do things mean for the learner and their identity construction? Educational practitioners and researchers should think why, and how educational systems teach, for example, advanced mathematical concepts to people who probably will not become mathematicians. What should this teaching mean to people, and does it actually mean to them? A nurse will possibly never be a researcher, but how much research does she need to know in order to appreciate and understand her place in the practice? Education should be about visits to other practices as well, not only acquiring skills to perform certain tasks. For example, the ideal education for nurses or teachers would be for them to find their places and identities in the relevant professional and practice landscape.

Difficulty in assessing practice. Assessment of knowledge as practice (e.g. educational systems validating informal learning from communities of practice) is a very complex issue; we need to understand the paradoxes and contradictions. There are complex inter-relationships between space, time, locality, practice, and boundary crossings between different practices. For example, a trainee doctor in a hospital learns one practice, but for assessment purposes, this would need to be translated into portable 'evidence' that can be 'validated' by auditors in another community of practice. Information is always lost in this translation.

Communities as knowledge development and management. Organisations have been looking into CoP approaches as a means of addressing knowledge management and becoming knowledge organisations. Although knowledge management is 10% technology and 90% people, much of the discourse is on the technologies, since it is harder to understand the human dimensions and what this means in terms of connections, collective understanding, etc. Organisations have been trying to create horizontal communities so that people and the organisations themselves can learn from each other, develop peer to peer interactions and practices. Horizontal systems for developing knowledge and innovations with peers in practice are very important when the business and activities are about knowledge. Only in industrial systems can value be created by strictly following a given design. Outside these, value creation comes from peer collaboration, and informal discussions which foster creativity.

Tension between horizontal and vertical structures. Creating communities and putting them into strict hierarchical systems does not disrupt and change those systems. Vertical structures (distribution of resources, accountability for results, external measurements and control, project deadlines and budget) reduce innovation, freedom and improvisation, which leads to reduced engagement. For example, teaching practices can be 'colonialised' with overprescriptive curricula, with reduced possibilities for collaborative innovation and individual experimentation. On the other hand, hierarchical systems of accountability are needed, for example to ensure equal opportunities. Furthermore, horizontality of activities does not mean naïve democracy, but

mutuality of relationships that build an economy of meaning. Leadership of and leadership with others are different things. It was concluded that there is, and always will be, tension between horizontal accountability (with peers, community) and vertical hierarchical structures. We need to recognise this and learn to live with it.

Different modes of participation. It was asked whether certain modes and levels of participation in the community can be encouraged or required. At the moment, it appears that only a small number of 'participants' actually contribute. It was suggested that the nature of community is to have participants with different roles. It is more important to recognise which part of a larger network is the actual community, than to categorise different forms of participation or different communities. Most communities have both strong and weak ties (i.e. people who strongly or only slightly identify with the community). What is important is that lurking should be defined by one's own identification with the practice, and not with problems relating, for example, to geographical location, internet access or other external excluding factors.

Identity development. The boundaries between the vertical and horizontal structures need to ensure knowledge development, but at the same time allow people to have their own identities and develop them in a meaningful way. There is power in both axes and both of them can also develop identity. For example, certification-related power aspects can develop a person's identity as someone who is qualified to prescribe medicines and work as a certified doctor. There are different processes for identity formation that are also supported in communities of practice:

- Imagination: how do we imagine ourselves and make sense of the world around us?
- Engagement: engaging in experiences that form and refine identity,
- Alignment: to express belonging to a community by aligning to the practices and traditions of the community, 'what you do and do not do', 'which research methods you use' etc.

Assessing the quality of community. It was mentioned that evaluating the trustworthiness of a community and people online is a difficult but important issue. In time, trust can be earned, but it may be difficult to fast track if there are no official assessments and certificates. It was argued that the concept of trust is changing and being reconfigured. It is combined with identity, sense of belonging, seeing oneself in the landscape. Furthermore, a community's sustainability may be difficult to evaluate in online settings. There needs to be more research on these issues. For example, are factors such as filtering, qualifications, trust, measures between active participation and lurkers, or documentation of knowledge determining the Darwinian process of community survival and success? How long will it take to realise and evaluate successful and viable community models, also in the economic sense (and which communities need to die)?

Overall, the session highlighted:

- practice as a container for lived knowledge, emphasising the situated nature of learning;
- the need to consider 'who are the learners' and how to change their experience to develop their understanding of who they are and how they are placed in society;
- learning in communities as an experience of being in the world, in self-organising places where meaningfulness is the driver, instead of learning through structured learning curricula;
- tensions between vertical structures for accountability and measurement and freedom in participation, collaboration and innovation.

4. Case studies on learning communities

In this session, Scienter[7] presented an overview of the 12 online communities studied in order to analyse pedagogical and organisational innovation. These are listed in Figure 2. The research entailed analysis and observation of community interactions and content, as well as interviews and surveys with community members and managers. The presentation gave a brief overview of the first results from selected cases, as the study is still ongoing. Here, we summarise the specific aspects raised during the presentation and discussions.

Collaboration of the involved communities					
Community Name	Interview Community Manager/Staff	Interview Members	Survey	Observation	Supporting material
TappedIn	2	3	//	x	x
RezEd	1	4	11	x	
eTwinning – Time after Time	3	2	5	//	x
CEDDET	2	3	101	x	
Il Cantiere	1	5	16	x	
Microbiological Forum	1	4	51	x	
Englishforums	1	4	9	x	
Tudiabetes	1	4	105	x	
Bookcrossing	2	3	216	x	
Experience Project	1	2	38	x	
GAY.tv	2	3	488	x	
Muxlim	1	2	//	x	

Figure 2 : 12 online communities studied by Scienter

Informal self-driven forms of learning. The learning taking place in the communities studied is essentially informal collaborative learning and exchange of experiences. It is not new as such, but the use of technology makes a difference. When compared to formal education, it is very different organisationally, socially and culturally. The cases demonstrate that people go to these spaces because they have a specific interest, to socialise, and to develop or reinforce an identity. While they are there, they discover that they are learning. These communities show that you do not have to force people to learn. However, it was pointed out that the results are mostly people's perceptions, and are not based on testing and evaluating knowledge development and status from an external point of view. On the other hand, a research approach or communities where testing knowledge would be involved might be difficult to implement as people might not want to participate. Ethnographic approaches might give more information about the moments of learning, and should be considered for further studies.

Documenting knowledge. Some communities have started to 'document' the knowledge expressed and created in their activities and communications, e.g. by publishing discussion summaries in a regular newsletter. Case study examples show that members want and appreciate this, to 'avoid loss of knowledge'. This allows members to go back to issues and also allows new people to have information about what was happening in the community before they joined. These newsletters or community magazines can also be distributed outside the network. Documenting summaries of the productions makes horizontal knowledge vertical, transferable to outside parties and can

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7   http://www.scienter.org/

become a success factor for the community. In a way, this is a means of separating knowledge from the practice.

Mostly informal systems for information quality. As discussed in the previous session, ensuring the quality of the information provided in a community is an important question. For example, microbiology is a highly regulated area and it is important to avoid incorrect information in the related practitioner community. The cases presented did not reveal specific formal systems for auditing information and ensuring correct advice. However, in some cases there are editors who crosscheck the content before publishing or Wiki approaches where anyone can edit and improve the content, leading to collective quality assurance.

Possible tensions with surroundings. Cases showed examples of tensions between communities and their surroundings. For example, the Microbiology Forum has come to be highly appreciated by practitioners in the field. Therefore, some companies use the community as a training resource for their employees, which is considered to be negative by many community members. Financial supporters of a community can also affect community activities: for example, GayTV has had to adjust its front page content in order to take into account the wishes of the advertisers.

Success factors for engagement. It is not enough to simply have communities. The components for success, and what makes the DNA of these communities must also be considered. It was suggested that one important success factor was shared language among people from different countries (CEDDET network). It is also important to study what the main dynamics and activities of successful communities are and whether they promote participation. In most of the case studies, activities were concentrated in forums, which seemed to keep people engaged, and in some cases, videos also stimulated participation.

Further questions to study. The workshop participants hoped that case studies would provide more insight and cross-case analysis on success factors for engagement, resourcing, management, and transferability, and then develop practical suggestions. There is a need to understand the bigger picture. The case studies show that something is being done, activities are taking place, and something is being learnt. By recognising what it is that makes the learning happen in these cases, we could also try to foster it in other environments, finding ways to get people who are uninterested to engage in learning again and take part in education.

The aspects discussed here will be further elaborated when the individual case studies and their overall analysis is completed. The final case study report, to be prepared by Scienter, will be published separately later.

5. Learning in online communities – how, what and when?

This session covered the main body of the review report that was prepared for the workshop. The presentation gave an overview of how, what and when learning takes place.

Learning in online networks and communities differs from learning in traditional classroom settings in that it gives new opportunities for:
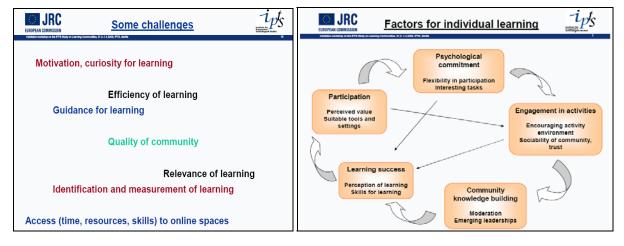
- Learning situated knowledge through narratives and stories;
- Reflection on personal life and one's identity, with new opportunities to compare with others;
- Experiential learning through doing and participating;
- Inquiry-based learning by following one's interest through various opportunities.

The social environment for learning in online networked settings is different from a classroom. Online networking makes it possible to connect with different kinds of people from a vast pool of possibilities, anytime of the day and despite geographical limitations, providing:

- Active peer support for learning;
- Environments where novices and experts can communicate and participate together;
- Opportunities for learning by observing others, following a vast number of different activities and information sources.

ICT plays a key role in empowering learners as it enables new ways for them to access, organise and interact, thereby enhancing learning and creativity and providing a new means of socialising.

Online networks and communities provide opportunities for learning Key Competences (European parliament and the Council, 2006), including both topic-specific competences (mother tongue, foreign language, mathematic and scientific competence, digital competence) and transversal competences (social and civic skills, cultural awareness and expression, creativity, innovation and entrepreneurship, and learning-to-learn skills). Furthermore, these spaces support the development of identity in new ways for both personal and professional growth. They also enrich one's life with connections and opportunities for reflection.

The presentation also discussed barriers, challenges and factors for individual learning in online collaborative settings. The suitability of the tools for the activity purpose plays an important role in participation and learning. The presentation concluded that:

- Technologies are providing new means of learning, making it more reachable;
- Online spaces and communities could be a key tool for the desired lifelong learning continuum;
- Online networks and communities can be used for learning relevant knowledge, skills and competences for future jobs;
- Collective online spaces provide creative and innovative potential for learning by individuals and institutions;
- Online learning offers new opportunities for increasing equity, but at the same time, there are risks that divides will widen;
- Educational systems could benefit from informal online learning by:
    - Preparing lifelong learners during formal education and outside of it
    - Learning to take advantage of these approaches in education and training
    - Validating learning outcomes in external settings without changing them
    - Finding how these communities could help in changing institutions (communities of learning practitioners, researchers, educational actors).

The experts' comments in this session continued on themes already started in other sessions and also took up new issues, widening the scope of discussion.

Learning and valuing new skills. Experts agreed that it seems that there are new skills and literacies developing through participating in online communities. These skills are about mobilising people, creating an attitude for participation and working together for a common purpose, and providing what previously was supported in a village. For example, Greek bloggers have organised demonstrations through online networks and blogging. In online collaboration, people learn transversal competences such as listening to each other, commenting and communicating. However, understanding and valuing these skills and this learning is still poor. Currently, for example, some employers do not think that important skills can be learned in informal online collaboration, but instead, want to cut their employees off from internet networking.

Bridging formal and informal learning. There are no clear borders and differentiation between formal and informal worlds of learning. Often the content planned in formal education is about issues we already know, and informal learning creates situations where we can learn (possibly collaboratively) what we do not know, or plan to know, yet. In heterachically created knowledge, the meaning is negotiated among the participants, and in 'hierarchical knowledge' it is imposed from outside. Both these forms of knowledge are important. Informal learning often builds upon practice and experience, which may be missing from the formal learning. It was raised that problem-based learning approaches are a step in the right direction to bridging the gap between the formal and informal aspects of learning.

Ownership of learning. It is important that learners can own their learning in forms of reflection, for example, through portfolios. Educational institutions should provide tools for students to direct and develop learning, instead of trying to own and manage it. For example, a lot of effort

has been put in creating digital materials and archives, and it is worth considering how different open educational resources could be used for supporting individual learning activities. However, some topics may be better suited for formally structured and guided learning than for informal learning.

Role and form of assessment. It was pointed out that learning is often driven by tests, and that teachers think mostly about how to make students pass exams – the learning objectives may become 'what is in the test'. The current assessment practices do not take into account the types of learning that are taking place in informal collaborative settings. However, experts argued that we should not try to transfer evaluation factors and measurements from formal education to informal learning. The skills and learning in the online networks are very different. They can be demonstrated in the competent usage of and participation in networks, and therefore, skills validation could come through having been an active and visible member of a certain community. It was pointed out that not all learning from online communities can be certified, nor would this be desirable.

Low-skilled learners. It was mentioned that the review report of the study addresses mostly what a well-rounded person can do, but does not address what a less competent people can do. It is a major challenge to ensure that everybody is able to take advantage of these opportunities. Going to school supports socialisation and participation. In online collaboration, it is more challenging but important to find ways to identify dropouts and people with difficulties in learning. Can we replace schools with something else that ensures basic skills, socialisation, and digital fluency for kids? Lifelong learning models cannot assume that all people are enthusiastic about continuing learning.

Challenges of digital fluency. There is a need to shift from talking about basic digital skills to considering digital fluency, which includes more advanced skills and competences in online collaborative settings. In addition to critical media literacy and content production skills, being able for example to build, follow and benefit from thin connections plays an important role. Ensuring digital fluency for everybody is a serious challenge that needs to be addressed. Awareness of privacy considerations requires special attention. Online activities can leave permanent digital trails of one's learning paths, which are still visible and not removable even 10 years later when one's identity and skills have changed.
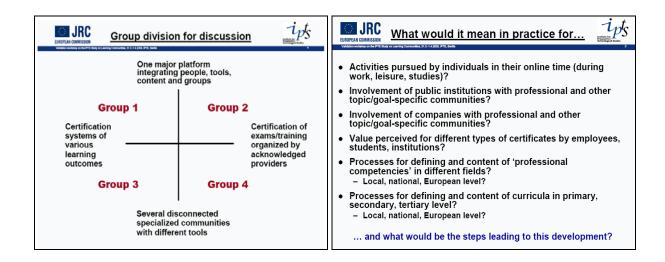
Challenge of studying a new paradigm. The research scope is very large and there is a risk that current research methods are too geared to formal education. It is important to consider what the new pedagogies in online collaborative and informal settings are, and what makes people learn in them. How do we recognise or ensure positive and desirable learning? Workshop discussions showed that it was difficult to consider informal learning without using formal learning as a yardstick. It is important to find the language, aspects and concepts that would help us approach and talk about learning in these settings. Discussing learning of individuals and collectives in online networked settings requires that we look at the different personalities involved and cultures of learning. It is not possible to generalise about communities, or national educational systems, as there are many specificities in different environments and cultures.

Putting the phenomenon into a wider context. It was pointed out that discussions should be placed in a broader perspective. People live in a wider digital world, and the social computing phenomenon should be put into this broader landscape. It is also important to consider the hybridness which is experienced by internet users, who have both online and offline experiences

and connections. Can technologies and online networks shape things or do they only mirror what exists already? Furthermore, it was suggested that many changes are going on in the world now. These raise the issue of social solidarity and the need to create a sense of community – which can now be done in new ways online. All this is part of a bigger picture, relating to the social and economic changes in Europe and in the world.

6. Future of learning with ICT-enabled communities and networks

To encourage discussions on the workshop topics, the participants were divided into four groups to imagine learning and ICT-enabled communities in a given future setting in 2020. The main objective of the exercise was to raise additional topics, concerns and challenges to be taken into account in the final discussion on policy implications.

Group 1 were asked to imagine a situation where there was one major widely-used integrating online platform, and there were systems in place that could certify learning outcomes acquired in various ways. This group believed that personal ePortfolios, complemented with reputation management tools, would play an important role, and be provided by the system. Third party references would play a key role, for example when selecting a plumber, recommendations by neighbours and other customers would be more appreciated than official certificates. Some kind of balance between portfolios and certifications would emerge, but the role of university certifications would change. If people decided to pursue university certificates, they would consciously look for highly-respected institutions. A major danger in this future was that everybody would have access to a lot of data collected and provided about people and their activities, and there would be risks in relying heavily on peer reviews. Furthermore, the fact that one major power would collect and own a lot of data would provide it with opportunities to do assessments, and manipulate results and activities without people being aware of it. Scarcity and being different would increase value, possibly creating elitism.

Group 2 imagined a situation where there was one major integrating online system for internet users, but the power of certification remained with organised training providers. They considered this scenario would be quite unlikely, because differentiation is supported by several emerging niches, as new communities can easily be created to meet new needs. They suggested that instead of dominating platforms, there would be standards for easy integration, which would be universally adopted by platforms and applications. They pointed out that it is difficult to discuss the desirability of certain future settings based on our current values, as future generations may

have different values. In their discussions, they considered that in this kind of future, universities would change from being certification providers to becoming authenticating authorities for communities and personal portfolios, guaranteeing transparency, credibility, relevance and quality. Furthermore, they raised the point that funding and commercialism need to be considered as regards communities. Communities may need to be economically supported so that they can provide the desired services, as not all communities and their members are altruistic.

Group 3 imagined a situation where there were several dispersed communities, and there were different ways for certifying learning outcomes. They considered this was a very likely scenario, since many elements already exist, such as open educational resources which are freely available and enable people to acquire knowledge and skills. In this future, small companies would be able to give certifications for specific skills. The group also suggested that universities would share courses in which people could participate and receive a certificate from several universities at the same time. Certifications would remain important when hiring people but would be typically combined with internet searches about the applicant. Companies could start to hire people and then look for jobs for them, instead of describing jobs and then looking for candidates. This future raised the fact that people could become excluded from the recommendation system, if they fail to get a first recommendation. For this initial inclusion into the system, certifications would be convenient tools. Skills and facilities for managing digital identity would become very important in this scenario. It would be essential that legislation were developed to require platform owners to allow people to regulate and at least erase their data if they so wished.

Group 4 imagined a situation where there were several dispersed communities on the internet, but the power of certification remained with the educational institutions. They considered this to be a fairly likely future, although they pointed out that it is difficult to think of anything drastically different for 2020, as it is already quite close. They perceived that, in any case, this future would end up with a few major platforms (maybe 3 or 4), and communities would not be disconnected as there would be members linking them together. Certification and curricula development would essentially be based on competences instead of content, and universities would move into multinational degrees with international comparability. Group 4 realised that it was important not to underestimate the basic skills of literacy and numeracy. Furthermore, it was important not to aim exclusively at developing competences for the labour market but developing identity should also be a goal (currently, schools are not doing either of these tasks very well). The challenges related to developing certification systems that allow mobility, take into account differences between formal and informal learning and cultural differences. It was pointed out that curricula planning should be democratic, involving more stakeholders, members of CoPs, normal citizens and systematic co-operation between educational institutions and industry.

Overall, the presentations and discussion raised issues on power, autonomy of learners and communities, liability of actors and platforms, and concerns about privacy and data management. However, it was pointed out that the discussions had remained 'in the box'. Nothing very different had been imagined, and participants had not thought big enough. It is important to think about the objective of a learning society – is it to make people happy or is it to contribute to GDP? What competences should be learned? Are identity, engagement, mobilisation and problem-solving among them? Furthermore, it is important to consider how to transfer knowledge artefacts between different communities and practices. This would be necessary for describing the knowledge built collaboratively or the skills obtained while participating in the community.

7. Implications for stakeholders

On the second day of the workshop, the participants took part in a joint discussion on the policy challenges and suggestions for different stakeholders. The objective was to take a pragmatic approach in suggesting what could be passed on to people who need to consider these issues in their daily work and life.

The session started with a policy introduction, where the following points were made:

- The major strategic challenges for European co-operation in Education and Training for the Lisbon objectives are about promoting quality and efficiency, equity, creativity and innovation (entrepreneurial mindset), and lifelong learning with physical and virtual mobility. It is important to start thinking already about what comes after 2010. ICT for learning is a transversal issue, which is still important and which enables innovation.

- The year 2009 is the Year of Creativity and Innovation, and emphasises the knowledge triangle of research, innovation and education. This does not apply only to higher education, but also to the earliest stages of education, where creativity and innovation should be encouraged as well.

- The Key Competences for lifelong learning must be considered, especially transversal competences. It is important to start from the early stages of education with cross-curricula competences, such as 'out-of- the-box' thinking, problem-solving, risk-taking, even though it is not easy to develop appropriate qualifications, as was discussed in the workshop.

- The debate on new skills for new jobs is important and ongoing. It is important to look at what is changing. In what sense are jobs changing? What should young people know? A change of mentality is needed in education.

The discussions in the previous workshop sessions had already come close to these topics, and many issues raised then were raised again in this session. The participants were asked to consider messages for different target groups: learners, teachers, local decision makers and European policy makers. What clear statements can be made as a result of the workshop which could make an impact on the future?

7.1   Learners

All the discussions and statements aimed to improve conditions and outcomes for learners and learning, even though they were initially directed at other stakeholder groups which should support them. However, some considerations were directly related to the activities of learners.

Listening to the learners. It was pointed out that the voice of the learner should be represented in policy considerations, and this is not happening at the moment. New approaches to finding learner representatives are needed, as not all learners, especially those participating in the new informal ways of learning, have systems of representation. There are student and consumer

associations, and professional societies which could be consulted. Individual learners could be involved in many ways, through forums, student groups etc.[8]

Considering interfaces between informal and formalised life. Students who use certain technologies or applications for leisure, may not want to use them for educational activities. This would mix their private lives and activities with school performance and assessment. If these technologies and applications are used for education, students would need and want to know how their activities are assessed. There may be heavy counterproductive trends in trying to combine informal and formal learning approaches, and the rules and ethics of the practices need to be carefully considered and made clear.

Ensuring skills for learning. Examples show that learning communities could work for people in and after higher education, but it is not clear if they would work for people with fewer skills. It is important to consider people with less education, and also cater for low vocational paths. These people may not be aware of, interested in, or able to access the new ways of learning which might suit their learning preferences better than schools did, and they are likely to become unemployed, relying on their own devices. People are restricted to spaces and communities in the languages they can use. In the current society, it is essential to improve all learners' digital fluency. Furthermore, it is important to develop learners' skills for self-regulated learning, as these are essential in both formal and informal settings. It was pointed out that there is evidence that ICT can enhance these skills.[9]

7.2 Teachers

Teachers are key people in making change happen. Their training, everyday practices and support should be re-thought and their networks should be reinforced to help them do this.

Developing teacher training and professional development. Teachers' professional development should fully take into account the fact that their students are digital 24/7. Teachers need to move away from being the holders of knowledge to becoming facilitators and supporters of learning. More attention should be paid to educational theories in teacher training, in order to allow teachers to build their own practices on them. New knowledge could be built, for example, through innovation projects during teacher training. It is important that teachers themselves participate in the development of new practices and pedagogies. They need to be the owners of these and also of new definitions of learning content.

Connecting formal learning tasks with practice and life. Teachers should not be prepared only for what happens in the classroom but also for what takes place outside it, bearing in mind how the formal intertwines with the informal. As a practical change in current educational practices, it was suggested that learners could be encouraged and allowed to use their networks and various resources to rethink the meaning, objectives and forms of homework. Homework tasks, instead of preparing learners for the classroom, could help them learn what they need to do, and enhance critical reflection on how they complete tasks outside the school environment. This would also allow a focus on the dimension of 'practice', beyond the knowledge component. However, it must

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[8]   As an example, it was mentioned that the Learnovation open forum in Brussels 27 May aims to discuss with different stakeholders what innovation and creativity means for learners in different contexts, see:
      http://learnovation.wordpress.com/2009/04/09/27-may-brussels-learnovation-open-forum/
[9]   See, for example, TACONET-KALEIDOSCOPE conference proceedings 2007 and the special issue of European Journal of Education vol 41, Issue 3-4 in 2006.

be remembered that it is essential to change assessment and exams; otherwise learning systems and tasks cannot be changed.

Awareness of networking and collaboration opportunities. Teachers need to be aware of collaborative informal learning opportunities, because both their learners and they themselves may benefit from them. By engaging learners with these opportunities, teachers could nurture learners' skills to recognise and meaningfully participate in these communities. Teachers themselves should become members of local and online communities in order to develop and share their practices and to receive and give support to each other.

7.3   Local decision makers

The local aspect is important when developing new practices and promoting change, as at the local level, people know what works well in their environment. Each country has its own educational context and settings, and innovations often happen at the local level. Educational policy makers should know about European frameworks and issues at European level, and at the same time, respect the local contexts.

Empowering actors. Experts suggested that if innovation is hoped for, it is important to give freedom. Too much control and too many strict regulations and policies hold back innovation. It was mentioned that some company environments are successfully defining light regulations that allow innovation in a managed way, avoiding recklessness. Teachers should be given the space for innovation, in order to have academic freedom to experiment and learn from the experiments.[10] Innovation through experimentation always implies some risk and possible financial losses, which should be recognised. Furthermore, not only schools and teachers need to be empowered to experiment, but also civil servants.

Inertia for innovations. It was argued that, in institutions and formal education at the moment, there is a trend away from innovation towards risk aversion. We need to support innovation in the formal system, and at the same time promote innovation outside it. People often claim that they cannot be innovative because of rules, teachers' unions, etc. However, it was pointed out that rules and guidelines are not always only constraints, but they can also be used for introducing innovation, such as different learning quality tools and approaches. The experts suggested that we should not concentrate only on radical change but also on incremental change. This is especially important when targeting stakeholders, for whom incremental changes might be more possible to take up and implement. Furthermore, it must be remembered that good managers are essential. In order to support the implementation, take up and upscaling of good ideas, it is important to improve basic management. What these good management practices are is not yet fully understood, and more research and best practices is needed.

Support through both local and international networks. There should be networks that allow local support and also connect at national and European level. A possibility to communicate with other practitioners with familiar terms and expressions in one's native tongue may make it easier for more actors to start participating and innovating. eTwinning is an important networking example in which 60,000 teachers already participate, and it would be worth considering how it could be

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[10]   As an example, it was mentioned that in the Netherlands, they have a grass-roots approach where teachers are given some money for experimenting their ideas with the requirement to report back later on the results. This has prompted a wide diversity of projects - some silly, others very clever. This approach demonstrates that different types of innovation are continually emerging, and that they should be allowed.

enforced and expanded. There all the teachers are connected with each other with local, national and international connections. The experts pointed out that eTwinning is like an undercover approach for introducing and creating innovations and new educational practices through the collaboration of teachers.

7.4   European level

It was pointed out that there is a real danger of creating policies for an environment where policies are ignored. There should be academic freedom instead of an all-embracing policy that dictates how innovation should take place.

Rethinking curricula and assessment. It was stressed several times during the discussions that assessment needs to be rethought. More emphasis should be given to formative assessment, monitoring and supporting learning activities and to competence-based assessment approaches. Educational systems and policies often concentrate on the summative assessment and outcomes measurement, with all the discussion on comparative degrees and competences. Experts raised concerns that the rubric offered by the European Qualifications Framework (EQF) constrains learning outcomes and innovation in learning and education. However, it was also argued that EQF is quite flexible, and that it allows the introduction of an element of practice when creating evaluation for knowledge, skills, and competences. It can take into account both formal and informal learning, which is already a big change from current practices. Ways are needed for people to document and formalise their learning and career achievements.

Promoting experimentation. As raised in the earlier sessions, there is no one method that should be applied on a European scale, as there is great diversity and no simple right answers. People should have the opportunity to try and experiment. Failures should be allowed but recognised early and fast. Once people have learnt from them, they should move on to another experiment. These experiments should be documented, and common platforms could be used (for example, ePractice[11] and eLearning[12] portals) to share and build knowledge from them. Experts hoped that in addition to small scale experiments and trials, there would also be some larger scale integrated solutions at the European level. For example, the experimental public school in New York uses game-based learning, where even the teacher training is experimental.[13]

Measurements and regulations. Regulation on data ownership and managing one's own data on online platforms is needed. Additionally, managing and ensuring intellectual property rights for online and digital content are problematic and should be further developed. It was suggested that there is a need to prepare indicators and monitor progress of educational strategies taking advantage of the opportunities offered by virtual collaboration. For example, in addition to physical mobility, it is expected that virtual collaboration and virtual mobility will be taken into account in the new Lifelong learning programme. As an objective for further research, it was suggested that there should be incentives for self-organising learning, both for people and organisations. Experts suggested that there should be a framework to enable self-organised learning capacity similar to the one used for internet traffic and interoperability of systems enabled by common technical standards (TCP/IP).

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[11]   http://www.epractice.eu/
[12]   http://www.elearningeuropa.info/
[13]   See: http://www.instituteofplay.org

7.5   Overall

Linking with stakeholders. The discussions emphasised that there should be more interconnections between institutions and stakeholders. It is important that the role of learners and stakeholders is understood and enhanced. We should not only think about Member States, but also, for example, the inertia of parents and teachers' unions. Stakeholders are very different - some are conservative, and others are not. Furthermore, finding suitable representatives for different groups may be difficult. For example, in organisations there may be tendency for innovations among actors, but the long established representatives are conservative. It was also suggested that if you want genuine innovation, you do not ask for advice from existing stakeholders, as they may not be able to think 'out of the box' sufficiently.

Importance of pedagogy. It was pointed out that pedagogy is still important, even though a lot of emphasis is put on technologies. New pedagogies are needed in the context of emerging technologies, to find successful ways of reaching learners and listening to them more. Teachers and trainers also need examples of how to apply the new tools, for example, on how to apply Montessori pedagogy in digital environments. The main objective of the new pedagogies should not be to force the informal into the formal, but to recognise the value of both, and make people as competent as possible in this hybrid situation.

Lifelong learning as integration of formal and informal. It was pointed out that lifelong learning is currently organised in such a way that it adopts the institutional roles of initial education. It was suggested by some that, in order to really support lifelong learning, we should ignore the current educational systems. Others, however, held the opposite view that we cannot ignore what goes on in the official education system and that the plans to support lifelong learning must consider the institutional system. Formal learning and informal learning are different worlds, and methodologies are needed for both. The important issue is to realise that the mechanisms are different.

Considering learning trajectories. It was suggested that the preconditions for successful lifelong professional development is learning from the day you are born, flexibility in the time and space of learning, pedagogical flexibility and content flexibility. These can be supported in learning communities. However, there should be orchestration for lifelong learning, and guidance for learners to manage their learning careers both as individuals and professionals. The capacity to manage one's learning career is extremely important and having access to guidance from professionals becomes essential.

Encouraging discussion and increasing awareness. The experts pointed out that the current economic crisis opens the door to a debate on the meaning of learning and education. The power of central structures is shifting in all spheres and it would be a good moment for an overall awareness campaign about the importance and opportunities for lifelong learning in new ways. There is an ongoing debate on the decline of traditional communities and the upsurge of social networks, which may be connected to the development and fast take up of Web2.0 applications. We should not ignore what new ICT allow us to do, and awareness of these opportunities should be promoted in all environments and to all potential beneficiaries.

8. Conclusions

Overall, the workshop discussions contributed to the research by emphasising aspects that the invited experts considered most important. Furthermore, new topics and considerations were introduced. The main points that were raised during the workshop are summarised below:

- It must be recognised that structures, policies and assessment produce hierarchical systems that may hinder horizontal collaboration, innovations and new knowledge creation. This tension cannot be resolved, and both hierarchical and heterarchical systems are needed. It is important to learn to deal with the tension between them in the best possible way.

- There are no clear boundaries between formal and informal learning. Both take place at the same time and can support each other. However, formalising informal activities may change people's motivation and behaviour, and therefore change the learning results. Formal assessment methods are not well suited to informal learning.

- New skills and competences, especially transversal competences, seem to be nurtured and developed in online spaces. People are motivated because of their personal interest and learn to get engaged, work with and listen to others. Shaping one's identity through individual learning trajectories is important and online communities support new ways of doing this.

- We should not romanticise online learning communities. They may not be suitable for learning all types of competences, or provide support for all types of learners. Online it is possible to simply carry out activities without thinking and learning: not all online participation leads to learning. Organised education and ensuring basic skills for children is still very much needed.

- Lifelong learning in online communities may be suitable for people with higher education and skills and who are interested in professional development. However, low-skilled learners may not be able to use them or be interested in learning and engaging in them. It is important to ensure that everybody can use them and to emphasise digital fluency for all learners and citizens.

- In order to develop innovation in education, it is important to raise awareness of new opportunities through ICT, listen to stakeholders, and support experimentation by individual actors at local level, sharing the results afterwards. There will be no general overall solution; diverse situations need to be considered and different practices experimented with and developed.

- Formal educational institutions cannot ignore informal learning and the digital world their students are living in but must prepare people to participate in it. They must tap into existing communities to learn lessons from them, engage students in productive learning communities and allow them to enhance the formal learning experience with informal elements and real-life connections.

The final project report will synthesise messages from the literature (review report prepared for the workshop), case studies (case study report to be published separately), and the workshop discussions (this report). It will need to consider further the interfaces between educational institutions and informal online collaborations, in order to suggest options for enhancing innovation to support lifelong learning by tapping into what has been learned about these informal learning settings.

Annex 1: Workshop Agenda

Learning Communities
Innovations in new ICT-enabled learning communities

Validation Workshop 31.3.-1.4.2009

<u>DAY 1 – TUESDAY, 31 MARCH 2009</u>

09:15   Arrival at IPTS

09:30-10:00   Opening, Welcome, Introduction of the Participants
Yves Punie, IPTS

10:00-11:15   Session 1: Emergence of new online communities

Presentation by *Kirsti Ala-Mutka*, IPTS (30')

Chair: Yves Punie, IPTS

11:15-11:45   Coffee break

11:45-13:00   Session 2: Communities of practice: the art of learning together

Presentation by *Etienne Wenger* (30')

Chair: Brian Holmes, EACEA

13:00-14:00   Lunch

14:00-15:15   Session 3: Case studies on new learning communities

Presentation by *Claudio Dondi*, Scienter (30')

Chair: Clara Centeno, IPTS

15:15-15:30   Break, coffee and tea available

15:30-16:45   Session 4: Learning in online communities – what, how and when?

Presentation by *Kirsti Ala-Mutka*, IPTS (30')

Chair: Yves Punie, IPTS

16:45-17:00   Break, coffee and tea available

17:00-18:00   Session 5: Future of learning communities?

Group activity

18:00   Close of first day

DAY 2 – WEDNESDAY, 1 APRIL 2009

09:00-10:00   **Session 6: What have we discussed this far?**

Summary of the first day, *Yves Punie*

Groups present their results from the previous day

Chair: Yves Punie

10:00-11:00   **Session 7: Risks and challenges for learning in online communities**

Chair: David Broster, IPTS

11:00-11:30   ***Coffee break***

11:30-12:30   **Session 8: New Skills for New Jobs in new learning communities?
-- policy implications and options**

Chair: *Lieve van den Brande*, DG EAC

12:30-13.00   **Closing conclusions and discussion**

Yves Punie and *Kirsti Ala-Mutka*

13:00   ***End of Workshop***

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Abstract

This document provides an overview of the discussion that took place 31 March – 1 April at IPTS, Seville, Spain, in the validation workshop of the interim results of the project on Innovations in new ICT-facilitated learning communities. This report presents the main messages from the workshop discussions in a structured fashion. The discussions highlighted both the difference and hybridity of informal and formal learning, and a need to find ways to benefit from both without losing the features that give them their strength. Online networked settings are playing an important role in people's lives and can provide new skills. However, participation in them does not necessarily lead to learning, neither is it available for all people. Educational systems need to recognise the existence of this online collaborative world where people are living and working, ensure that all people have skills and confidence to participate in it, and learn and benefit from it in developing new and efficient ways for teaching and learning.

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