Developing More Authentic e-Courses: Working Life Mentoring through Social Media

Irja Leppisaari
Central Ostrobothnia University of Applied Sciences, Finland
irja.leppisaari@cou.fi

Markus Maunula
Central Ostrobothnia University of Applied Sciences, Finland
markus.maunula@cou.fi

Jan Herrington
Murdoch University, Australia
j.herrington@murdoch.edu.au

Tuula Hohenthal
Central Ostrobothnia University of Applied Sciences, Finland
tuula.hohenthal@cou.fi

Abstract: Studies show that affordances of social media have not yet been fully exploited in the promotion of authentic e-learning in higher education. The *e-Learning of the Future* project (2009–2011) meets these challenges through working life mentoring using social media. In this paper, we examine the planning and implementation of *social media* in five project courses and how these changes support *authentic learning*. A further focus of interest is the role of working life mentors in the process. The outcomes indicate that the introduction of social media measures strongly supported the strengthening of authentic learning principles (Herrington & Oliver, 2000) on the courses. Revisions to learning tasks centred on establishing connections to expert communities, the use of blogs, and compilation of recorded entrepreneurial narratives. Working life mentors brought an up-to-date, work-oriented perspective to the process and highlighted skills required by workplaces of the future. Developing educational tasks that cross traditional boundaries raises issues of operational culture change, the roles of partners and transparency of education, and these implications are discussed in the paper.

1. Introduction

It is generally recognised that important elements of modern learning environments are networking and expert connections between educational institutions and working life, and the various virtual opportunities this integration affords for adopting new ways of working and learning. Authenticity, flexibility, collaboration, relevance, and boundary crossing are important characteristics of education (Herrington, Reeves & Oliver, 2010; Bonk, 2009). According to the Cisco White Paper (2010) one main component of pedagogy for the 21st century is authenticity. Delivering authentic learning is a way to engage students by appealing to their existing interests. It is equally important to integrate real-life experiences into lessons. This also provides an opportunity for learning that extends beyond the classroom into the community, the workplace, and the virtual world. In Finland, the evaluation of web-mediated education in universities of applied sciences (UAS) conducted by the Finnish Higher Education Evaluation Council found that working life needs to be actively utilised as a partner in education in order for UAS online education to produce authentic learning (Leppisaari, Ihanainen, Nevgi, Taskila, Tuominen & Saari, 2008). This challenges higher education to construct meeting places between learners, teachers and working life partners. Working life representatives and businesses need to be more strongly integrated to the design and delivery of education in ways that take advantage of innovative education technology and social media, such as, methods employing a working life mentor.

2. e-Learning of the Future – an innovative model to modernise online education

At AVERKO, the e-learning centre (see www.averko.fi/eng) of the Central Ostrobothnia University of Applied Sciences (COU), the challenge to strengthen collaboration between higher education and working life in education is met by the European Regional Development Fund (ERDF) partially funded *e-Learning of the Future* project (see

http://tulevaisuudeneoppia.ning.com) during 2009–2011. Changing skill development needs are effectively met by innovative educational models that deploy future educational technologies and social media (Web 2.0) and support authenticity of teaching and learning. In this paper, mentoring that utilises social media is seen as a new opportunity and means to modernise work-oriented online education.

AVERKO offers open higher education studies via the internet. In an ESF funded project (2004–2006) AVERKO created an innovative Online Mentor model that improves links between higher education and working life. Online mentors are teaching partners on some AVERKO courses, their skills and experience contributing an authentic work perspective to online teaching. The benefits of including online mentors in the planning and content production stages of e-courses were evident in the project. Therefore, AVERKO is searching for solutions to course modernisation challenges by inquiring into the possibilities social media affords online studies (see Leppisaari, Hohenthal, Maunula & Lamberg, 2010). The ten AVERKO courses selected for modernisation reflect e-learning paradigms of the 1990s; interaction is primarily text-based and the learner's role is quite passive. *e-Learning of the Future* aims to update online study from both pedagogical and technical perspectives. In this development work, higher education instructors, working life representatives and technology experts collaboratively engage in sharing expertise to update work-orientation in e-course content. This solution can be called an innovative working life mentoring model in which workplace representatives are integrated into the planning, and development of online education offered by higher education (Leppisaari et al., 2010).

The project's operational model and interaction between participants have previously (see Leppisaari et al., 2010) been investigated. In this article, we examine how the working life mentoring model in the course update supported authenticity of online education and the strengthening of working life orientation. From this perspective there is reason to explicate the mentor's task and role, and the idea underpinning teacher–mentor cooperation. Working life mentors were chosen on the basis of work linkages between course teacher and COU staff. They were required to have an interest in using social media and experience in the course subject. They also needed to have time to work in a virtual media laboratory. ERDF partial funding of the venture required working life mentors to be from the Kokkola and Kaustinen regions. The working life mentoring model is based on an interactive relationship between teacher and workplace representative, enabled by the use of Ning. The mentor is a working life expert usually representing a single enterprise. In one project case, an entrepreneurial organisation was represented in the mentor role, resulting in the formation of a mentor network (Leppisaari et al., 2010). However, teacher and working life mentor roles were not strictly differentiated in all cases. The teacher was also a working life expert in some cases, such as, a librarian as both teacher and representative of expertise in her/his field. The courses examined in this paper are introduced below in Table 1. Each course will further be referred to as *Case* (1–5). The working life mentor's role is also briefly described.

Table 1: Courses to be modernised, description and work linkage in the modernisation process

Case	Course Name	Course Description	Working life mentor and role
1	**Setting up a business and business plans 4 ECTS**	Students are introduced to the process of setting up a business and are equipped to plan business operations and draw up/update a business plan.	Regional entrepreneurial organisation / CEO
2	**Online store 8 ECTS**	The course introduces electronic businesses and basic concepts of retail trade, systems and operational principles. Learners will explore modelling, design and implementation issues of a company's web applications.	National online store / second owner
3	**Programming in a WWW environment 5 ECTS**	Students will be able to develop small scale, interactive applications for a web environment. They will also be able to evaluate various programming techniques and their applicability.	Programming company / technology manager
4	**Data collection 2 ECTS**	The course focus is on the basic concepts of data collection. Students will be able to recognise, locate and retrieve field-specific sources of knowledge. They will be able to plan and conduct systematic data collection, assess source reliability and apply knowledge ethically. The examination of social media will give students an understanding of the social dimensions of sharing knowledge.	COU academic library representatives in dual role (teacher and working life representative)
5	**Moving on 5 ECTS**	Students will learn to use English for demanding written and oral expert communication tasks and understand the significance of social context in communication. They will produce texts and messages that demonstrate their ability to align communication situations with professional texts.	International industrial company/ expert interviews

3. Theoretical framework: social media and authentic learning providing a common ground for discussion and implementation of course modernisation

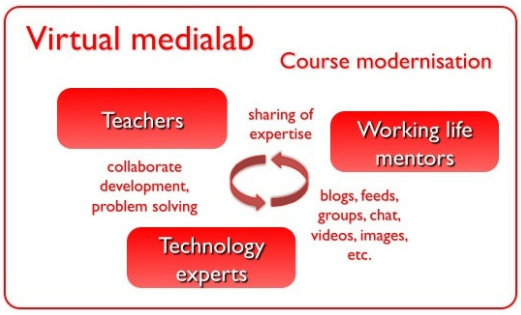
This project endeavours to strengthen working life-orientation of e-courses. The pedagogic framework is authentic learning and technologic updating, centred on the utilisation of social media.

Social media

Social media is characterised as Web 2.0 resources that emphasise active participation, connectivity, collaboration and the sharing of knowledge and ideas among users. Individuals and groups use content, community and online technology to construct common meanings for peer and user generated content (Grover & Stewart, 2010; McLoughlin & Lee, 2007). Learning and knowledge acquisition takes place only when situated in a social and authentic context. Teachers should find ways to reconcile classroom use of social media to the authentic ways students use it outside the classroom. Universities need to realise they are merely one context in which students learn, and form meaningful links to other contexts that benefit students (Toikkanen, 2010; Grover & Stewart, 2010).

Online education modernisation, in which higher education and working life collaboratively engage, occurs in *e-Learning of the Future* innovatively through new possibilities afforded by social media, in a virtual lab (see Figure 1). In the project, a model for course modernisation was created in Ning as a work platform and so called virtual media laboratory (see http://tulevaisuudeneoppia.ning.com/). Social networks like Ning serve as online communities where ideas and resources are shared (cf. Wenger, White & Smith, 2009). In Ning, course teachers and working life mentors collaboratively identify approaches and appropriate tools needed to update the course. Ning as a social media service forms a virtual media laboratory offering a range of toolsets (e.g. blogs, feeds, chat forums, video and image distribution, twitter search). This enables an integration of multiple services that flexibly enhances course updating.

Figure 1. Virtual lab operating model in course modernisation



A common social media website enables traditional boundaries to be crossed and cooperative resource-pooling relations between higher education and working life experts to be naturally constructed. Ning is a place in which working life mentors, teachers, *e-Learning of the Future* team members and the AVERKO online pedagogic expert meet and take forward course modernisation. A virtual lab rationalises participants' use of time, promotes collaborative development and problem solving, and makes necessary knowledge available quickly and flexibly.

Rapid technological developments have seen significant changes to online learning material, with new content implementation methods now available in addition to more traditional text-based material. Multimedia and social media tools enable new means of creating learning material (e.g. teacher and students in collaboration) and delivery of learning tasks, and also promote interaction on the web that supports learning (cf. Bonk, 2009; Shank, 2008). Modernisations in *e-Learning of the Future* endeavour to offer pedagogically and technically meaningful solutions tied to a specific learning goal or activity. The project offers e-courses new tools from, for instance, the following groups: learning platform tools, social media tools, video conference tool, learning material production tool, voice and video recordings, utilisation of virtual worlds.

Elements of authentic learning

Authentic learning occurs when activities parallel real-life practices with multiple solutions, require collaboration and support from a variety of sources and resources, and are multidisciplinary (Herrington & Oliver, 2000). Research led by Herrington, Oliver, and Reeves (2006) has focused on defining essential characteristics of authentic learning. This chapter proposes nine critical characteristics of learning as a framework for the design of more authentic e-learning environments. The elements are based on situated learning theory and other compatible research with particular emphasis on web-based applications.

Nine elements of authentic learning presented by Herrington and Oliver (2000, see also Herrington et al., 2010) propose that learning is best facilitated in learning environments that:

1. Provide an authentic context that reflects the way the knowledge will be used in real-life
2. Provide authentic activities and tasks
3. Provide access to expert performances and the modelling of processes
4. Provide multiple roles and perspectives
5. Support the collaborative construction of knowledge
6. Promote reflection
7. Promote articulation
8. Provide coaching and scaffolding
9. Provide for authentic assessment of learning within the tasks

These characteristics further provide criteria to identify authentic learning activities and environments. Technology can provide the tools to enhance authentic learning by providing learners access to resources and sources in a global community (Lombardi, 2007). Web 2.0 tools are seen as essential elements in the development of a repository of knowledge created and managed by the learner. For example, social learning networks offer authentic learning to utilise blogs, wikis, RSS feeds, links to sources of information and authentic resources, and peer collaboration. These communication and social networking tools support authentic learning through collaboration, resource distribution and the construction of new knowledge (Lombardi, 2007; Grover & Stewart, 2010). Social media as an affordance of education technology and authentic learning can provide a common ground for discussion and implementation of course modernisation. This study seeks further knowledge on how social media, combined meaningfully with traditional learning platforms, can support authentic learning.

4. The study

The objective of this study is to examine the discourse on the courses modernised in the *e-Learning of the Future* project on the basis of Herrington and Oliver's (2000) authentic learning criteria. In addition to the actual implemented changes, we are also interested in examining the brainstorming discussions and *suggestions for change* teachers, working life mentors and project personnel made in the modernisation process.

The research questions are: What *social media utilising* modernisations were planned and implemented in the courses during the process? How do the course updates support *authentic learning*? We are also interested in how working life mentors introduced their expertise into the process and their role in the modernisation solutions and final outcomes. With reference to the research literature, we also consider how the solutions could be further developed with social media and working life mentoring that applies these affordances. Research data comprises the five courses to be updated in the project (see Table 2), modernisation process records in Ning, modifications and new elements in the Blackboard course implementation introduced by the update, Adobe Connect Pro (ACP) recordings of online sessions (discourse of 'modernisers'), participant observations, and email messages. The research methodology was qualitative content analysis. Implementation of authenticity is described and compared applying Herrington and Oliver's (2000) elements, which form the research analytical framework and thematic basis (cf. Smith & Davies, 2010; Flick, 2006).

5. Results - Implementation of authenticity in *Future e-learning* courses

Below we examine how authenticity of the five courses was strengthened through working life mentoring that utilises social media. How did working life mentoring impact content to be modernised or facilitate development of greater authenticity in the courses? Table 2 summarises the social media solutions applied on each course.

Table 2. Courses to be modernised and employed SOME elements.

Course	Audio and video online-session	Blog	Virtual world	Multimedia recording, podcasting, interviews, stories, narratives	Chat session	News feeds, search alerts, social book-marking	You-Tube	Wiki
C1	x	x		x		x		
C2	x	x		x		x		
C3	x					x		x
C4		x			x	x	x	
C5	x		x	x				

5.1 Authentic contexts that reflect the way the knowledge will be used in real-life

In designing authentic e-learning courses, authentic context needs to be all-embracing, to provide the purpose and motivation for learning, and to provide a sustained and complex learning environment that can be explored at length (Herrington, et al., 2010, 19). Herrington et al., 2010, (20–21) warn against the tendency to oversimplify in learning environments and challenge to preserve the complexity of the real-life setting with "rich situational affordances".

The project's operational model aims to ensure teaching content meets working life skill requirements and the need for modernisation emerges from working life. In Case 5, ascertaining industry language needs formed the foundation for the update, which meant interviewing four working life representatives. These persons with experience of international interaction (tasks or clients) were expected to identify oral and communicative needs in practical workplace situations. Applying this information leads to authentic course content and tasks (C5, 9.12.2010, Ning). An examination of how authentic content production was implemented in the courses updated in *e-Learning of the Future* shows that in some cases the tool range expanded from learning platforms to the use of real-time applications (see Table 2). Real-time interaction on the web creates authentic situations. The use of virtual teamwork in workplaces is increasing (cf. e.g. global working life context) and collaborative work and sharing are central to these teams. Virtual learning environments use online learning resources and objects, and make use of expertise in networks. For example, synchronous online sessions and real-time expert lectures were implemented in Case 1, and several cases utilised links to expert communities.

5. 2 Authentic activities and tasks

The e-learning course needs to provide ill-defined activities which have real-world relevance, and which present a single complex task to be completed over a sustained period of time, rather than a series of shorter disconnected examples (Herrington et al., 2010, 21–22). Resources to support these activities should be sufficiently diverse and non-directed to allow students the opportunity to discern relevant from irrelevant material. Authentic tasks also provide opportunities to collaborate and reflect.

Assignments in the project courses had strong connections with reality. In Case 1, students drew up a business plan, which required sustained effort and formed an overarching complex task comprised of sub-tasks (cf. Herrington et al., 2010). Business ideas emerged from students' own goals and every business plan was authentic. When interviewing entrepreneurs, students can acquire a very realistic understanding of entrepreneurship. (Arhio, Kaakko & Maunula, 2010). Authentic learning was also well supported by Case 1's data collection task. Each learner and the group needed to gather knowledge from a variety of inputs and become familiar with sources of knowledge, a skill of real benefit for the student when working as an entrepreneur. Participants in the modernisation process of Case 3 considered the types of tasks beneficial to the course from a working life perspective and whether a working life mentor brings new, timely issues straight from working life to practical tasks (C3, Ning 12.3.2010; 13.4.2010; 21.5.2010). The working life mentor was keen to consider with the course teacher clearly defined workplace cases and commissions appropriate to the curriculum. The company represented by the mentor could play a role in analysing outcomes of practical tasks and evaluating applicability to working life. (C3, mentor 21.5.2010, Ning.)

In working life-oriented learning tasks, expert knowledge can be located on the internet and connections to expert communities created. Several cases wanted to strengthen this operational method. Use of social bookmarking was discussed in Case 4, and Case 2 decided to use Google Alerts and Social mentions on the course. Students were also instructed to make a personal Google site, providing practice in content aggregation (Ning 15.6.2010). Data collection in new ways (including treasure hunts and tours) is also the most popular teaching and learning tool employed in Second Life (C5, Ning 10.1.2009). Critical evaluation of irrelevant and relevant knowledge and sources needs to be strengthened in future data collection tasks (cf. Herrington et al., 2010). In Case 4 students were able to

apply data collection in other aspects of study, (e.g., completing final projects). The teacher described learning task modernisation as follows: "*We reduced the number of simple search tasks and added tasks requiring evaluation, reflection or the writing of longer responses.*" (C4, teacher email 28.2.2011).

5.3 Access to expert performances and the modelling of processes

In order to provide expert performances, the e-learning course needs to provide access to expert thinking and the modelling of processes, access to learners at various levels of expertise, and access to the social periphery or the observation of real-life episodes as they occur. According to Herrington et al (2010, 24) it is important for students to be able *to compare their performance with others at various levels of expertise*.

Expert contacts to support authentic learning in Case 1 were established through recorded expert interviews, real-time ACP expert lectures, and RSS feeds. Access to expert performances was strengthened by compiling video recordings of interviews and narratives given by entrepreneurs from various fields into a course entrepreneur video library. Case 3 also included an entrepreneurial interview video. This promotes opportunities to share stories (narratives and cases) and experiences. Entrepreneurial narratives can in future be used as material in case-based learning. Using AVERKO's previous online mentoring model as a basis, the project endeavoured to identify meaningful ways to utilise working life mentors on courses. The Case 1 teacher with earlier experience of working as an online mentor described: *"…. I thought it more realistic to begin… with an acp expert lecture at the start of the course. This could be realised by an entrepreneurial organisation, science park, business incubator, and so on. It might in practice be difficult to have busy entrepreneurs commit to the entire duration of the course, but a single lecture is easier to arrange and fit into the timetable.*" (Teacher C1, Ning 10.2.2011). An entrepreneur's participation on a course can also be restricted to, for example, a week-long intensive mentoring period.

Innovative education technology is used to create borderless learning environments, in which various skills are combined in novel ways and experts at different stages interactively enrich each other's performance. The students in Case 1 were all engaged in setting up their own business. As e-courses cross traditional boundaries and attempt to strengthen the learner group's connection to expert performances outside the school, there is cause to consider the communication channels and social media tools to be used. One mentor thought writing a blog once a month for instance to be possible (C3, Ning 23.4.2010). In one case, the working life mentor felt that writing was not a natural way for her/him to convey ideas on course modernisation. However, the project observers noted that s/he expressed her/his expertise articulately in ACP and contact meetings. For this reason the creation of expert connections should deploy multiple media channels and interaction that is solely based on written text should be avoided.

Little use has been made of social media affordances in online education to follow expert performances: microblogging, twitter, RSS and blogs. Three of the five *e-Learning of the Future* Cases employed blogs in the course modernisation. Cases 1 and 2 used RSS feeds related to course content. Students entered feeds to the blog platform. In Case 2, in addition to the joint course blog, student blogs were feeds to everyone's personal blog site, creating an inter-blog discussion environment, a so-called blogosphere. Social media methods and tools promote opportunities to form links to a broader learning and interactive network, in this case an entrepreneurial network and various entrepreneurial organisations. Future topics for consideration include how social media methods and tools can more powerfully establish direct contact to various experts in online education and serve collective real-time problem solving defined by student needs. Following an expert via Twitter requires a commitment by the expert to post short, frequent messages. This can enable many to follow (cf. Wenger et al., 2009, 84–85).

5.4 Multiple roles and perspectives

Essential to learning in an information society is the crossing of traditional borders and multiple, discipline integrating perspectives. For students to be able to investigate a problem or task from more than a single perspective, it is important to enable and encourage students to explore different perspectives on the topics from various points of view, and to "criss-cross" the learning environment repeatedly (Herrington et al., 2010). Courses should provide adequate experiences for students to deal with complex issues (Herrington et al., 2010, 25, 27) – reflecting real-life.

Inter-disciplinary interaction and cooperation in skill acquisition for workplaces of the future need to be strengthened in higher education. The designing of an e-course needs to consider how genuine possibilities for students to work multi-professionally within an e-group are created. In Case 5 students used various situations and roles emerging from working life interviews to practice language and communication skills in SL or ACP. A multi-professional entrepreneurial perspective is clearly evident in Case 1:*"For me it's important to have entrepreneurs from many*

different fields in the video library to ensure a sufficiently wide concept of entrepreneurship" (teacher C1, Ning 10.2.2011). Students on the course came from various disciplines and the perspectives of e.g. nursing care and arts entrepreneurship are wanted to be more evident (teacher C1, Ning 10.2.2011). Integration of multiple approaches is evident in several cases (C1; C2; C4) with knowledge gathered from multiple sources such as people, the media, materials, digital libraries. Shank (2008) stresses that a social bookmarking site on a specific topic may be a means of finding others with similar interests who can then provide additional resources and perspectives. Cross-discipline study also requires developing cooperation between teachers and working life, and the restructuring of education. There is greater freedom for flexible mobility between fields of study in online education and to implement "criss-crossing" between disciplines (cf. Herrington et al., 2010).

5.5 Collaborative construction of knowledge

The opportunity for users to collaborate in a 'community of learners' is an important design element, particularly for students who may be learning at a distance. According to Herrington et al (2010, 27–28) especially in e-learning, tasks need to be addressed to a group rather than an individual, and appropriate means of communication (discussion forums, social networking, wikis, etc.) need to be established. Collaboration has been defined as 'the mutual engagement of participants in a coordinated effort to solve a problem together'.

Several of the courses to be modernised in the project wished to increase interaction using applications of social media, but failed to explain clearly the purpose of this interaction from a learning perspective. According to the authentic learning approach, considering how collective *construction of knowledge* is supported online is pivotal. True collaboration is not simply working together, but also 'solving a problem or creating a product which could not have been completed independently' (Herrington et al., 2010). The discussion on modernisation in Case 3 raised wikis as a tried and tested good practice in working life for increasing authentic construction of knowledge on the course. The wiki tool is used in all projects of the working life mentor's company. S/he emphasised that after the first draft, product documentation is updated, improved and edited, a process important to teach potential programmers. In fact s/he stressed that wikis could be employed in teaching to update knowledge produced on previous courses (C3). The dynamic nature of these social media tools allow learners to become active participants or co-producers rather than passive consumers of content, so that learning is a participatory and social process (McLoughlin & Lee, 2007). It is important to see the actual use of a wiki as a means of cooperation and construction of knowledge, and not just focus on the final outcome of its use. Case 4 endeavoured to support collaborative construction of knowledge with blog tasks. In one blog task that especially promoted construction of knowledge, students were asked to consider what is meant by the concept "University of Google". The teacher described: *… we wanted a more rigorous discussion task in which students need to question self-evident facts. … These digital natives can …, find points that we haven't even thought of."* (C4, Ning, 31.10.2010, teacher 28.2.2011 email).

The tools and operational models of social media increasingly enable greater *learning from peers*. In future, blog tasks can strengthen collaborative construction of knowledge by favouring collective blogs or e.g. using wikis as a forum for promoting construction of a common understanding (cf. Salavuo, 2011). Real-time tutorials and conferences can be added to construction of knowledge and related collaborative learning projects. The danger is that by using individual blogs, *essays* are transferred to a new environment. A social media tool in itself changes nothing, rather the task needs to be pedagogically meaningful and support collaborative construction of knowledge.

5.6 Opportunities for reflection

In order to provide opportunities for students to reflect on their learning, the e-learning course needs to provide an authentic context and task to enable meaningful reflection. It also needs to provide non-linear organisation to enable students to readily return to any element in the site if desired, and the opportunity for learners to compare themselves with experts and other learners in varying stages of accomplishment (Herrington et al., 2010, p. 29).

In the project cases, the modernisation process resulted in the use of blogs to support reflection that promotes authentic learning (C1; C2; C4). Previously discussion areas in learning platforms and individual writing tasks were primary means of supporting reflection. In Case 1, the reflection task "*Could I be an entrepreneur"* was completed in a blog. Furthermore, students were to comment on at least two blogs. Through blogs and feedback received from peers and experts, students could also compare their development stage with the accomplishments of other students and experts (teacher, working life mentor) (cf. Herrington et al., 2010). In Cases 1, 3 and 4 social bookmarking and the practice of tagging helped learners reflect on the resource and domain being studied and see new perspectives as they viewed other's tags for similar items (cf. Shank, 2009). Blog commenting was not tightly linked to a learning

task in all cases, preventing optimal use of peer collaboration to support reflection (cf. Herrington et al., 2010). Students in Case 4 were guided to *reflect on their learning throughout the entire learning process and evaluate the development of their performance.* In addition to blogs they also used a separate *learning journal* which functioned as a mirror for the student's studies and a learning support and analysis tool. The learning journal was kept for the entire course and at the end a polished version was sent to the tutor.

5.7 Opportunities for articulation

In order to produce an e-learning course capable of providing opportunities for articulation, tasks need to incorporate inherent – as opposed to constructed – opportunities to articulate, collaborative groups to enable articulation, and the public presentation of argument to enable defence of a position (Herrington et al., 2010, 32). Lave and Wenger (in Herrington 2010, p. 43) point out that being able to speak the vocabulary and tell *the stories of a culture of practice* is fundamental to learning. In the courses being updated, students were to *introduce themselves to the group*, talk about their work experience and interfaces to the substance being studied, and express their expectations and learning objectives. In one case students were also asked to explain their view on social media and display any personal profile (personal web page, Facebook). Self-introductions were usually text-based tasks. This task could be further developed in future to include a richer use of other media. An oral (real-time speech connection, recording, YouTube) self-introduction is a necessary skill in working life, as raised by the working life mentor in Case 3.

In these course updates, blog tasks endeavoured to encourage reciprocal learning and sharing of ideas and skills in online communities. Blogs were personal course blogs (C1; C2; C4), their purpose to awaken discussion, promote interaction and support collaborative construction of knowledge. They appeared to serve several pedagogic objectives in these cases, including presentation of one's learning and sharing of expertise in a learning community. Blogs supported articulation by enabling defence of one's arguments and testing of understanding (cf. Salavuo, 2011). Entrepreneurial narratives (C1) were articulations of working life experts, of benefit to the expert through articulation of tacit knowledge and to students. A point to consider in future is whether understanding could be tested and aggregated expertise, (e.g. products created in student groups), be shared externally (e.g. through Twitter, SlideShare or Diigo/Delicious) (cf. Salavuo, 2011). Articulation could be developed by opening up learning contexts and products to a wider public in one's institution or on the internet globally (e.g. YouTube*)* (cf. Makino, 2007).

5.8 Coaching and scaffolding

In order to accommodate a coaching and scaffolding role principally by the teacher (but also by other students), the e-learning course needs to provide opportunities for more able partners to assist with scaffolding and coaching, as well as the means for the teacher to support learning via appropriate communication technologies (Herrington et al., 2010, 34). Social media transform the way we interact, and more generally, the way we experience togetherness (Wenger et al., 2009). Web-conferencing software (e.g. ACP, Skype) uses a mixture of audio, video, text, and shared applications to offer new ways to experience meeting as co-practitioners online and foster *virtual presence* (Leppisaari, Vainio, Herrington & Im, 2010).

Introductions at the start of the course are in this project a pedagogic solution that promotes interaction and creation of a feeling of belonging to the coaching community. In Case 1 the introduction meeting was held in the ACP online communication system. This concurrently provided real-time scaffolding at the start of the course, a critical stage in guidance availability. A recording of the online session was available in the course environment for those unable to attend the meeting. Students could pose questions during the session through chat, and select a level of participation convenient for them in this first meeting of the online community (cf. Wenger et al., 2009). Different learning styles were taken into consideration in Case 2 with the curriculum being also presented as a flash presentation. It is hoped the solution will increase student motivation to become familiar with *instructions*, thus reducing the teacher's guidance work.

The role of the teacher must be one of coach, facilitator, mentor (cf. Herrington et al., 2010) and ensuring that students acquire the critical skills necessary to negotiate this 21st-century world. Working life mentors in the *e-learning of the Future* project have the opportunity to continue as mentors on the course they have been updating. Mentoring in Case 1 was implemented by using ACP, that is largely through expert lectures given by entrepreneurs. In Case 2 the mentor role was seen as a working life expert in course discussions (discussion forums/course blog) and commenting on student blogs from an entrepreneurial perspective. Mentors could also keep a blog that students commented on or a joint student-mentor blog could be set up for timely topics (Ning 6.11.2010; 24.11.2010). Future developments should note that the mentor's role of supporting students' learning works best when the completion of

a task requires the mentor's expertise. The model also allows teachers to maintain contact with developments in working life, which facilitates higher quality guidance of students (C4, teacher, email 28.2.2011.)

Utilisation of peer-to-peer guidance among students and use of more accomplished students in peer guidance emerged in Case 4, which courageously included a challenging blog task, as*"…there are always one or two types who have the ability to see below the surface and motivate the others to follow."* (C4, teacher, email 28.2.2011). Future considerations should focus on how social media can be harnessed to develop peer guidance and expert guidance in a virtual learning community. Bonk (2009) reminds us that every individual with an internet connection can today be a mentor, or several mentors can be used if necessary – and from different parts of the globe. Affordances of open e-mentoring have not yet been found in formal education cultures (Makino, 2007).

5.9 Authentic assessment of learning within the tasks

In order to provide integrated and authentic assessment of student learning, the e-course needs to provide the opportunity for students to be effective performers with acquired knowledge, and to craft polished performances or products in collaboration with others. It also requires the assessment to be seamlessly integrated with the activity, and to provide appropriate criteria for scoring varied products. (Herrington et al., 2010, 37.) Assessment in the courses being updated was primarily teacher-centric and teachers gave individual feedback in e.g. the course blog and chat area reserved for task comments. Assessment was discussed in Case 2 with the pedagogy expert (23.4.2010 Ning) endeavouring to expand the understanding of assessment: *Could a student pair assess / comment on a task, thus reducing the tutor's workload?* Likewise, some blog tasks (e.g. C1, C4) required commenting on the products of peers. *Continuous assessment built into the course* was clearly evident in, for example, Case 4: Students received brief feedback or directions for further work for each task throughout the duration of the course. In order to pass the course, students must participate in blog tasks and submit a learning journal which collects the learning process.

In Case 2 students were also directed to a diverse utilisation of knowledge and expert sources: *Use the learning material, your experiences, search engines, link libraries and field-specific experts to help you complete tasks.* A learning process-based thinking on assessment was similarly clearly expressed: *A good response… is one which demonstrates the learner's learning process and construction of understanding and in which the problem… defined in the learning task is examined broadly.* (C2). Drawing up a business plan (C1) is an example of the broad-based, polished learning tasks requiring sustained work emphasised by Herrington et al. (2010). The integration of web programming tasks originating from authentic working life into the course was considered in Case 3. In this connection the mentor (Ning 21.5.2010) raised differentiation of a working life component from assessment *…so that our analysis doesn't affect the final outcome of the course, but is instead additional information and possibly increases motivation for the exercises.* Responsibility for assessment has traditionally belonged to teachers. It would, however, be useful to consider if social media brings new perspectives to this so that working life could participate in assessment. When appropriate, task submission could be in e.g. presentation or video form and a collective or open (e.g., YouTube) assessment of learning tasks should be developed. For example, opening up blogs as products for the general public and working life is a new affordance of social media (Makino, 2007; Grover & Stewart, 2010).

6. Conclusion

The examination of the five *e-Learning of the Future* project courses indicates modernisation aimed to increase student access to expert performances and the use of blogs in task updates. Blogs can be considered a social media tool that strongly supports authentic learning, through which knowledge is gathered, feedback given, common understanding created, and accomplishments articulated. Updating of learning tasks focused on transforming simple activities into overarching tasks that promote reflection and collaborative construction of knowledge, in which students work with complex real-life problems and tasks. Expert performances were made available to students through entrepreneurship videos and cases, and social feeds and bookmarking. Modernisation has resulted in the uptake of tools that increase interaction and collaborative construction of knowledge during a course, but the whole continues to be somewhat fragmented: the pedagogic function of tasks, how tasks overlap and the entire learning process needs to be strengthened in the future. Applications of social media are only means to learning – most important is pedagogy (Arhio et al., 2010). On the other hand, pedagogics can learn from ways to operate in new social media operational contexts (Lefoe, Olney, Wright & Herrington, 2009). The project's operational model is in line with ways of thinking on social media; the issue is not technology itself, but attitudes, sharing, exchange of ideas and collaborative work. The Ning community, where the modernisation process records are visible, supports this. Development suggestions that emerged in the modernisation work are a step towards strengthening authenticity of

education with close connections to the real world. However, the future challenges us to increasingly courageous open virtual and blended learning communities and creative solutions, often shunned by education organisations. Working life mentors can also indicate areas requiring modernisation and challenge us to pilot these.

The project outcomes indicate that it is not necessary to differentiate the teacher's and working life mentor's roles in modernisation work. Rather their interaction is to be examined comprehensively as a dialogic process of knowledge construction in which the various project parties activate and stimulate each other's thought processes. Working life mentors can bring to the modernisation process timely genuine working life practices such as wikis in which accrued knowledge is recorded for use in new contexts. In the pilot stage it would appear that this operational model which offers significant opportunities is also challenging from a working life mentor's perspective. It may be difficult for the mentor to find her/his role and bring expertise to the process as a so-called external actor (cf. Leppisaari et al., 2010). As was more broadly examined, Web 2.0 challenges educational organisations to change teaching content and methods, in which the willingness of teachers, e-learning experts and working life representatives is not enough. Leadership into a new educational culture is required. Integrating working life practices into a higher education operational culture in a state of change presents many challenges. Examples of this are the utilisation of student products on subsequent educational implementations and the role of working life in assessment. Openness of learning environments and the related issues of integration of informal and formal learning (cf. Iiyoushi & Kumar, 2008; Shank, 2008) are questions requiring a solution in the future.

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