

Learning 2.0 enhanced by social media tools - implementation and assessment

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Abstract: *The 21st-century teacher is equipped with numerous ICT tools and digital content to enhance or change students' experience of education. The reframing and reconceptualization of traditional learning landscape should become a prerequisite for a more efficient use of ICT. The educational objectives aimed at memorization, recognition and reproduction of basic definitions, rules, algorithms, and procedures can be reached far more efficiently by the use of ICT and social media tools. ICT has dramatically changed knowledge and content representation and delivery, the knowledge creation and conversion processes are on a new speed of a lifecycle. The learning content can no longer be a plain text, but a hypertext with images, videos, 3D objects, and other interactive media types. The paper aims at explaining the social media tools implementation and learning assessment at technology enhanced collaborative learning environment.*

Key words: *Learning 2.0; e-portfolio; ILIAS 4.3; social media; assessment; learning outcome*

INTRODUCTION

More than any other technology, social media allows educators to embrace the needs of changing learning environment and enables learners of all ages to learn in ways that are comfortable and convenient for them. Social learning helps learners become more informed, gain a wider perspective, and be able to make better decisions by collaborating with others. Social learning tools may also mediate in formal or informal learning environments to help create connections between learners, instructors and information. These connections form dynamic knowledge networks and improve knowledge transfer across teams and use learners, helping knowledge creation and sharing process. The most popular Web 2.0 social technologies are blogs, discussion forums, and wikis event their learning. There is a bulk of social software and/or social media for facilitating learning through interactions between learners, tutors and systems. Wikis, social media, back channel, learning analytics, peer assessment and the other catch-phrases and acronyms are part of the growing lexicon of educational technology.

New models for technology-enhanced education are designed at an ever-increasing pace, and instructors at all levels need to educate themselves about those innovations, and how to identify which are helping learners and which are not. Otherwise, new models - effective and ineffective - may appear with the potential to rapidly scale before faculty and instructors are prepared to deal with them constructively. The paper is a continuity of a previous research work in the Competency Based Education area and web 2.0 applications, which can facilitate high effective learning process and boost knowledge creation and transformation. The learning process includes the assessment of what the student is achieved through and at the end of the learning – formative and summative assessment. There exists a broad range of web based tools which can be effectively integrated into learning assessment process, those like e-portfolios. The paper aims at explain the social media tools implementation within technology enhanced collaborative learning environment and the role of e-portfolio as a highly efficient tool towards learning outcome assessment. The main contribution of the paper is the conceptualization of the key triangle in CBE learning assessment - ICT & social media tools, ePortfolio environment for collecting learning artifacts, and the assessment approach.

COMPETENCY BASED EDUCATION AND SOCIAL LEARNING 2.0

Competency Based Education (CBE) valuing what a learner knows, understands and is able to do on completion of a learning process – irrespective of how, when and where this learning takes place – is seen by many European countries as an effective

way to avoid such potential mismatches and promote active learning and inclusive teaching (Borgman, 2008). For vocational education and training providers and employers, competency-based (outcome-oriented) curricula can offer a valuable platform for bridging the worlds of education, training and work, providing a common language between competences acquired in learning and the needs of occupations and the labour market. For teachers, a curriculum built on knowledge, skills and competences that learners can acquire through an interdisciplinary approach, is more challenging than traditional approaches but also more flexible in designing learning programmes tailored to the needs of learners and applying innovative pedagogies and assessment procedures. For learners, an outcome-based (competency-oriented) curriculum is potentially user-friendly, allowing them to clarify the purpose of learning and giving them more opportunities for active learning, progression in education and training or integration in the labour market. It is far more value added for the learner and learning outcomes (Fig.1).

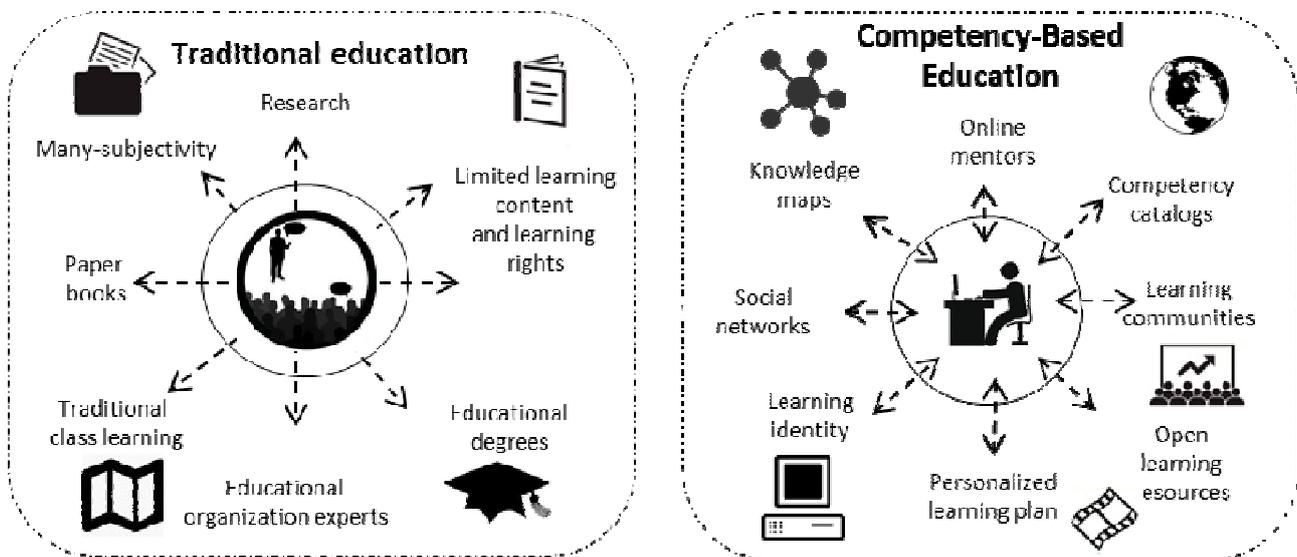


Figure 1 Traditional vs. Competency Based Education

ICT and Social Learning

ICT can be included in the competency-based curriculum of CBE both as a subject and as a learning tool. The phrase 'as a tool' means that students are expected to be able to use ICT to support their learning in other subjects. The aim is that students can learn 'thinking skills' in ICT meaning that they do not only learn to operate ICT equipment but learn how to apply technology to all life and work situations. This is considered the key life skill of the ICT curriculum. Thus online learning can enhance CBE in a diversity way like a connected social learning approach and web 2.0 applications.

Social Learning (SL)

Social Learning (SL) was reconceptualised as individual learning that takes place in a social context and later expanded to include aspects of both behavioural and cognitive learning. SL is learning that takes place at a wider scale than individual or group learning, up to a societal scale, through social interaction between peers. It may or may not lead to a change in attitudes and behavior (Lauer, 2011). More specifically, to be considered SL, a process must:

- demonstrate that a change in understanding has taken place in the individuals involved
- demonstrate that this change goes beyond the individual and becomes situated within wider social units or communities of practice

- occur through social interactions and processes between actors within a social network.

SL does not replace training. It may overlap a little and complement a lot, but it can also enable the transfer of knowledge in a way that training cannot. SL fosters an environment where people readily and easily pick up new knowledge and skills as the world shifts around them, meeting the demands of a constantly changing workplace. The use of social media and SL has exploded in recent years. Some teachers see Web 2.0 as a means by which more student-centred and social constructivist pedagogies may be designed in an online environment, as it enables students to contribute and collaborate to e-learning environments in a number of ways—a marked difference from first generation e-learning tools that behaved in a more traditional teaching-centred manner and in which social interaction and social learning was much less possible (Victoria University). Social networking services allow users to create an online profile and then communicate with other users of the service with similar or overlapping interests. Such tools are (HEA):

- Mind Mapping - allows students to generate, visualize, structure and classify ideas, as an aid to learning and organizing information, solving problems, making decisions, and writing.
- Wikis - a website that allows the creation and editing of interlinked pages via a web browser.
- Blogging - website designed to be updated with new content periodically, typically with the content displayed in reverse-chronological order. Although not an essential part, most blogs are interactive, allowing visitors to leave comments and this interactivity distinguishes them from static websites.

Learning 2.0

Learning 2.0 can contribute to making educational organisations more dynamic, flexible and open. It can help Education and Training institutions to become reflective organisations that critically evaluate and revise their corporate strategies in order to support innovative pedagogies. However, education and training organisations have to make sure they provide an infrastructure in which social media tools are accessible to all learners and teachers; create an atmosphere of support for Learning 2.0; foster and integrate new teaching and learning models; and be open to new assessment and grading strategies (Redecker, 2010). Among most popular social media tools for learning are: Blogging; Collaborative calendaring; Podcasting; RSS readers; Collaborative mind mapping; Micro-blogging/micro-sharing; Photo sharing; Screencast sharing; Presentation sharing; Video sharing; Social bookmarking; Collaborative editing; Collaborative working; Collaborative presentations; Social networking; Personalized start pages; Integrated social/collaboration environment; etc.

There is a parallel trend towards opening the stores of data that have been collected by public sector agencies using taxpayers' money. Open access to scientific and humanities research this is not unconnected to moves within Higher Education and the research community to expose experimental data (Frey, 2005). Taken together, these developments in Web 2.0 create four broad forms of impact, which can be summarised as: **inquiry, literacies, collaboration, publication.**

E-PORTFOLIOS & LEARNING ASSESSMENT

ePortfolios emphasises the importance of the evidence they contain for the development of the individual learner (Burek, G., et. al., 2009). This is exemplified in ePortfolio where evidence is available from relatively restricted sources at the beginning of the course, indicative of the learner's initial experiences. By the end of the curriculum, however, the ePortfolio covers a comprehensive range of material, demonstrating the learner's progress in terms of cognitive development, critical thinking, professional identity and acquisition of skills and competencies. In the final year, a typical ePortfolio

will contain evidence of research projects, student selected components, attendance at learning events and activities, learning plans agreed with educational supervisors, acquisition and understanding of essential skills, as observed by senior expert, discussions of varied case management and reflection on key activities and experiences of specific importance to the individual. Most of these will be accompanied by feedback from the senior expert concerned. There are six major Types of ePortfolios (IMS, 2005):

- Assessment
- Presentation
- Learning
- Personal Development
- Multiple Owner
- Working.

The potential portfolios have in bringing about a change in pedagogical practices and school assessment has led us to the conclusion that its adoption may not only benefit students but also construct an excellent opportunity for the professional development of teachers, since they are subsequently guided by their reflection on their own educational praxis. The stages in the development of the portfolio by the students might be (Costa and Laranjeiro, 2008). Using portfolios of evidence has long been part of the traditional assessment process for a range of qualifications. The use of e-portfolios in assessment has now also been adopted by many awarding bodies and accepted by the qualifications regulators. In the context of this document, an e-portfolio is defined as an electronic version of a 'traditional' evidence portfolio, not a wider learning portfolio. It consists of a system and process that enables secure, computer-based verification and assessment of evidence.

E-portfolio artefacts - formative and summative assessment

E-portfolio technology, particularly for assessment purposes, is still evolving, and this is why the approach at this stage is deliberately to guide rather than to constrain usage. Issues such as those summarised below continue to be debated, and solutions will be sought and developed over time. This is seen as the only practical way in which to enable evolution of the technology, encourage the participation of interested parties in developing effective practice, and share both effective practice and lessons learned (SQA, 2012).

Assessment of e-portfolios follows the same process as assessment of traditional portfolios – evidence/artifact is judged against the assessment requirements for the qualification. However, the use of an online environment, and digital evidence, does open up possibilities for handling some assessment processes in different ways. Technology makes possible to use large-scale testing in a more formative way to help shape and improve the effectiveness of ICTs for learning. In particular, the ability of ICTs to reach a broad range of students, collect data, and present different variants of the same material makes for a powerful research tool. Questions as broad as the best trajectory through the learning content or as narrow as the most effective way of visualizing information can be tested empirically, and the environment can be shaped to reflect the results. Under this formative model of research, students can still be randomly assigned to conditions, but the goal of assessment is the continual improvement of the ICT, not the final proof of effectiveness (Blair and Schwartz, 2012). The ultimate goal of assessment is to strengthen student's responsibility for the process and outcome of learning.

Research suggests that involving students in reading and writing is correlated with the improvement in students' critical thinking, complex reasoning and writing skills. Therefore, while designing a course, a teacher-engineer should include assignments in both intensive reading (more than forty pages per week) and writing (more than twenty pages per course) in the syllabus to increase student performance in critical thinking

and writing. Along with reading and writing, it is recommended to use quizzes frequently to re-expose students to key concepts in order to actively recall/generate information. It is also well documented that learning is enhanced, when students construct responses compared to selecting answers among multiple choices. Congruently, timely feedback provided after each quiz/test contributes to student learning and understanding of the material covered in the test. At the same time, it is recommended that timely feedback with clear learning goals should be provided as a **formative assessment** with the purpose of improving student learning, as opposed to **summative assessment** with a focus on evaluation of what students have learned (Tchoshanov, 2013). Timely constructive feedback (compared to delayed summative feedback) is important to student learning and significantly contributes to the improvement of students' performance on exams. Technology can increase the efficiency of existing models of assessment, but it can also transform how assessment is used and conceptualized. This brief makes the following issues (Blair and Schwartz, 2012):

- Assessments should be designed to yield information that is actionable at the appropriate level. They have many different uses, from ranking nations to characterizing a student to evaluating a learning experience. Different uses require different kinds of assessment.
- Formative assessment can be an important tool for making instructional decisions. It is considered assessment "for learning," where the primary goal is to inform the learning process. This contrasts with summative assessment, which measures the end product of learning, and is primarily evaluative.
- Assessments can be embedded in ICTs. They do not have to take time away from learning. The embedded assessments can be integrated into the learning process, such that students are not aware they are being assessed, which can reduce test anxiety.
- One way ICTs can leverage assessments to inform the continual improvement and refinement of the ICT is by taking advantage of the internet. Varying features of an ICT in a controlled way allows for evaluation of which design and instructional choices lead to the best learning.
- ICTs can measure process data about how students go about learning and solving problems in the ICT. This allows for assessment of student inquiry skills and students' preparation to continue learning outside of the ICT, which is in line with the 21st century demand to keep learning on the job.

CONCLUSION

The learner is experiencing truly revolutionary changes due to the intensive implementation of new digital technologies that provide unprecedented democratization of knowledge and access to open education towards the educational objectives. The advancement of digital age teaching is associated with facilitate and inspire student learning and creativity, design and develop digital age learning experiences and assessments, model digital age work and learning, promote and model digital citizenship and responsibility and engage in professional growth and leadership. A different goal of assessment is to evaluate learning experiences. Instead of making an inference about how well a student is doing, the desired conclusion is about how well instruction is doing. This is not a new idea; educational research has been comparing different instructional conditions for decades. However, when one explicitly shifts the focus of assessment to learning experiences rather than individuals, there is a shift in priorities. Questions about the reliability and validity of assessment measures remain important, but equally important is the ability to make inferences about the quality of different specific learning experiences. If the goal of assessment is to improve instruction, then the measures need to yield actionable information at the level of the learning environment. An e-portfolio that is used well should make it easy for Assessors

and Verifiers to monitor learner's progress. With project work, for example, e-portfolio tools such as blogs or contact diaries could be used to show learners' activities as they work through the planning and development stages of the project, highlighting the review/reflection activity and feedback delivered at each learning stage.

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The paper has been reviewed.