

MOSEP – More Self-Esteem With My E-Portfolio Development of a Train-the-Trainer Course for E-Portfolio Tutors

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Abstract:

This paper gives an insight into the MOSEP project, funded by the European Commission (Leonardo da Vinci Programme). The project focuses on the high dropout rates amongst young students (14-16) in the transition phase from middle to upper secondary school or into first vocational education. MOSEP addresses this problem by proposing to introduce the method of electronic learning and development portfolios (e-portfolios) specifically designed for effectively teaching and consulting this difficult adolescent learner group and helping them to identify and document their competences even if acquired through non-formal or informal learning. In this way it is expected that young people's motivation, reflection, confidence and self-esteem will be enhanced, which might help them to reach better qualifications and improve their chances on a globalised labour market and in a globalised society.

1 Introduction

Recently – especially after the last few PISA-tests - there have been heated debates in many European but also non-European countries about the quality and accountability of schools and education systems.

In the aftermath some reformers have demanded de- and re-schooling respectively, but even institutions like the 'Federation of Austrian Industry' in their position paper 'The Future of Education – School 2020' (2007) are advocating the idea of a "comprehensive and dynamic redesign of the system of education in general and the school system in particular" (p.3).

More outspoken critics of traditional education systems like Roger Schank predict "the death of the classroom"(Fielding, 1999) and - like Marc Prensky (2007) - foresee the "rebirth of 21st century learning".

In numerous documents published by the European Union (EU Commission, 2001a-c, 2002, 2004, 2005), by European educational authorities (e.g. Becta, 2003a+b, 2006, 2007a-b) or by researchers (Attwell, 2007a-d; Green, 2007; Komoski, 2007; Molina, n.d.; Pallister, 2006; Passy, 2004), the importance of technology-enhanced learning and its significance for and impact on young people has been analysed and discussed.

Equally the significance of non-formal and informal learning has been addressed by EU institutions, and a great number of publications in different countries have documented the

motivational impact of ICT and demanded its intensified use (Balanskat et al, 2006; Becta, 2007a + b; European Council, 2004; Rosenfeld, S., 2004).

In EU publications like the EU youth magazine *Le Magazine* (EU Commission, 2005) as well as in this year's EU Rome Youth Declaration (2007), the EU Youth Council demanded the recognition of non-formal and informal learning.

However, in many countries, there is still a growing discrepancy between forces strongly adhering to traditional, formal learning, to the certification of standards, competences and skills (Urduan et al, 2005) and increasing numbers of young people who are demotivated by conventional schools and learning, who are not able to achieve academic success and lack certified qualifications. Yet, strangely enough, these same youngsters are often enthusiastically involved in different forms of non-formal or informal peer-to-peer teaching and learning and sometimes become even "co-creators" (Attwell, 2007d), "reflective producers of knowledge rather than consumers of pre-digested content" (Ravet 2007b) or – as Komoski (2007) puts it – "prosumers" (=combination of producers and consumers) of knowledge.

Considering the rising numbers of adolescent early school leavers in many European countries (see Table 1) and their reduced chances for further education or employment, it will be essential to find new ways of identifying, documenting and evidencing people's competences and skills, no matter whether acquired through formal, non-formal or informal learning.

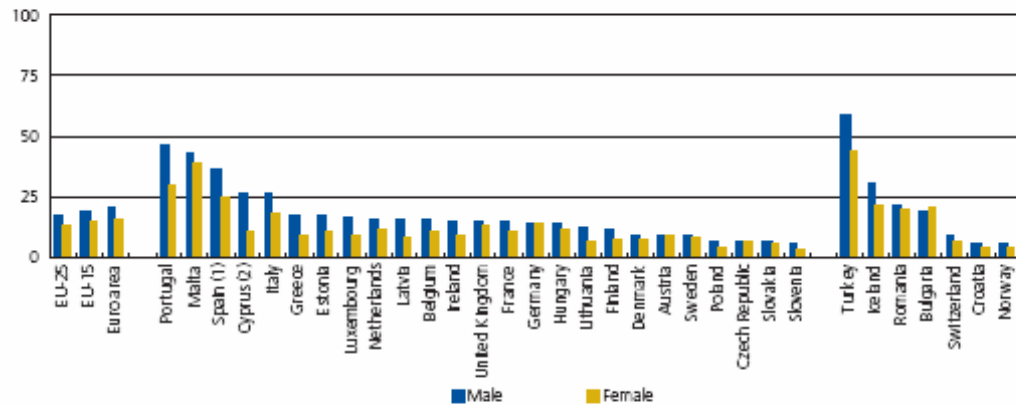
This is what the EU-project MOSEP (More self-esteem with my e-portfolio), an innovative project funded under the European Commission's Leonardo da Vinci Programme (August 2006 – August 2008) aims at. It proposes the e-portfolio concept and tools as a means to combat young people's low attainment levels and reduced chances on the labour market in several European countries and suggests necessary adaptations of educational paradigms.

2 Background

In spite of attempts undertaken by the European Union and educational authorities across Europe (European Commission DG EAC, 2005; Eurostat, 2007), an analysis of the European participation rates in upper secondary education still does not render satisfactory results. The benchmark of no more than 10 % of early school leavers at the age of 15 set by the European Parliament and Commission for 2010 (European Commission, 2005) appears to be unrealistic considering the 2005 figures of 15,2 % of early school leavers in EU25 (Eurostat, 2007).

Figure 2.6: Early school leavers, 2005

(% of the population aged 18 to 24 with at most lower secondary education and not in further education or training)



(1) Break in series.

(2) Most tertiary students study abroad and are not included.

Early school leavers refers to persons aged 18 to 24 in the following two conditions: the highest level of education or training attained is ISCED 0, 1, 2 or 3c short and respondents declared not having received any education or training in the four weeks preceding the survey; the denominator consists of the total population of the same age group.

Table 1: Eurostat (2007) *Europe in figures – Eurostat yearbook 2006-07*

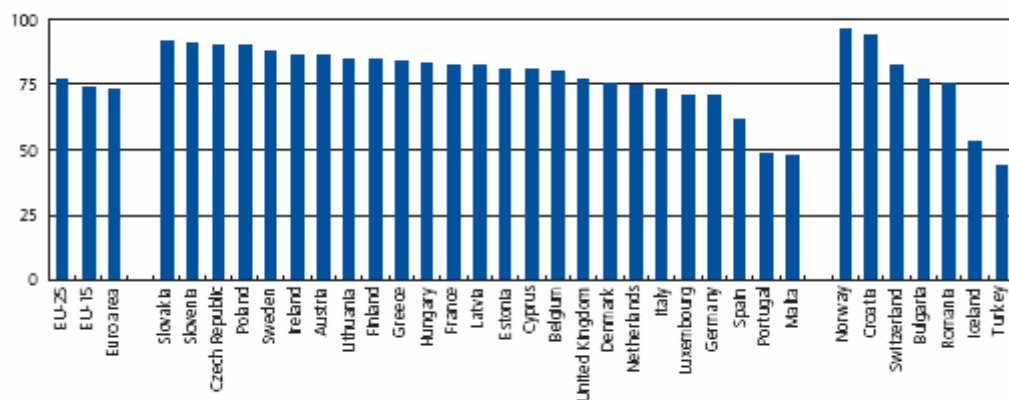
Studies have shown that the percentage of non-participation in education increases, especially at the age of 15-16 (when secondary level vocational/technical or general education programmes begin), and if not tackled at this critical age, the problem becomes even more urgent at the next stages.

Young people that abort educational programmes or give up school lose track of continuous education and run the risk of being socially excluded and of being left behind in today’s high-skills labour market (Barrington-Leach, 2007).

EU studies estimated “...that almost a third of the European labour force (80 million people) is low skilled. Further, a 2004 Cedefop report suggested that by 2010 only 15 % of newly created jobs will be for people with basic schooling, whereas 50% will require highly skilled workers” (European Commission, 2005, p.3).

Figure 2.5: Youth education attainment level, 2005

(% of the population aged 20 to 24 having completed at least upper secondary education)



The indicator youth education attainment level is defined as the percentage of young people aged 20 to 24 years having attained at least upper secondary education attainment level, i.e. with an education level ISCED 3a, 3b or 3c long; the denominator consists of the total population of the same age group.

Table 1: Eurostat (2007) *Europe in figures – Eurostat yearbook 2006-07*

As a consequence, Urdan et al (2005) claim that “half the EU workforce (some 100 million people) require upskilling”, a gap that cannot be closed through classroom instruction alone, but will require e-learning scenarios (p. 18). In the MOSEP-project this suggestion has been

taken up by introducing the e-portfolio concept, regarded as a form of e-learning assessment and implemented with preferably open source web technologies (Hornung, Hilzensauer, Geser, Schaffert, 2007).

Considering these data, the European Commission has defined it as a top priority to take preventive as well as remedial measures to tackle the problem of early school leavers and premature school dropouts (European Commission, 2001c, p.4).

In the light of extensive evidence of ICT contributing to pupils' attainment (Becta, 2003b), one of the strategies adopted involves tailored learning through technology. In this context, ICT-enhanced learning, combining young people's interest in Web 2.0 technology with their tendency towards informal learning, also includes the development and use of e-portfolios within an overall e-learning concept (Becta, 2007a). E-portfolios as tools for lifelong learning are expected to boost young people's motivation and self-efficacy by documenting their competences, appraising their achievements and helping them to enhance their reflection and 21st century learning skills (Attwell, 2007b ; Barrett, 2005; Becta, 2007a; Partnership for 21st Century Skills, 2002; European Parliament, 2006 a+b; Pallister, 2006).

In another Becta research report (2007c) the issues of motivation and self-esteem in the use of e-portfolios based on observation, usage statistics and reports from participants are addressed. The report states that "In the case of e-portfolio development, both engagement and motivation can be affected by access to suitable technology. According to many teachers, the motivation to use the e-portfolio systems provided in each case is closely related to motivation to use ICT in general"(p.13).

Becta (2007c) goes on to say: "Teachers across case studies reported that particular groups, such as students with special educational needs (SEN) and those at risk of exclusion, also appeared to be more engaged than previously when working with the learning platform"(p.13).

With regard to motivation, they found: "Where students see a connection with their current and future lives, motivation will be relatively high"(p.13).

In terms of self-esteem, Becta notes: "It is interesting to see that, although students tend to 'understand their work better' and are 'pleased with' their progress, for students other than those in primary schools, using e-portfolios and online spaces does not, in the main, help them to be more confident." They believe that "This could be due to the extent of feedback and reflection that they have engaged in: more constructive feedback and reflection is more likely to enhance confidence." The report states that "This points to an important role for teachers and tutors in promoting the social, as well as the instrumental, outcomes of learning activity"(p.24).

Based on the above mentioned research findings, the MOSEP-project aims to contribute towards raising young people's awareness of their own competences, helping them to reflect on their skills as well as improvement areas and, by applying a special e-learning concept, to document and evidence their formal as well as informal learning

3 The MOSEP-project

3.1 Project aims

MOSEP is a EU-project, funded through the Leonardo da Vinci programme (Pilot projects 2006 – 2008). Promoting an innovative e-learning concept and tool, the project aims to help reduce the high dropout rates in the age group between 14-16. By means of e-portfolios, adolescents will be able to combine their interest in ICT with their affinity for informal, self-directed learning. E-portfolios will help young people to give a broader and more varied picture of their development and learning processes, their competences and skills, their reflections on their achievements and failures as well as of feedback provided by teachers, trainers and peers. These electronic ‘competence profiles’ with their aggregated multi-media artifacts will allow a better insight into people’s learning processes and outcomes than traditional transcripts and certificates. Thus e-portfolios are expected to foster young people’s self-sufficiency and self-esteem, motivating them in their school careers or vocational training. In this context, MOSEP responds to a growing need and urgency to provide actors involved in their learning, assessment and vocational processes (teachers, implementors, decision makers, career advisors) with more information on the value of portfolio-based teaching, with guidelines on how to interact as reflective teachers with their students and with practical support concerning open source tools for implementing e-portfolios.

3.2 Target groups & beneficiaries

The target groups for future MOSEP-train-the-trainer-courses are:

- Experienced teachers in secondary schools, especially those who are responsible for vocational orientation and career counselling in schools of the partner countries.
- Teacher training institutions needing to update professional teaching methods and teaching skills.
- School career advisors who consult students (and their parents/ guardians) at the transition stage from middle secondary into upper secondary education.
- Vocational counsellors from public Labour Market Services
- IT-centers and/or e-learning resource centers in teacher training institutions/schools.

Indirect beneficiaries:

- Students (aged 14-16) in secondary school who are in the transition phase between school and working life

3.3 Project results and outcomes

As exemplified before, this project intends to contribute towards reducing the dropout rate of young students (age 14-16) by employing e-portfolios as powerful tools for teaching, counselling and empowering adolescents.

In order to achieve this overall goal, the project consortium

- has conducted a study on the special qualification and skills needed for teaching and counselling adolescent students. A special focus has been given to exploring and collecting examples of best practice in the European partner countries, documenting how disrupted learning biographies and poor vocational orientation can be avoided.

- has developed a MOSEP train-the-trainer course concept for the continuing professional development (CPD) of secondary school teachers and vocational counsellors. It should enable them to coach especially adolescent students in developing and assessing their personal competences and vocational orientation with the innovative digital portfolio assessment method.
- is producing a package of MOSEP teacher-training material which will be used in the different course modules. The MOSEP package contains information, guidelines, case studies and practical assignments to be used for trainings and in class. The material will be produced for on /offline use, including a print version and self-study eContent with audio support in five languages: Bulgarian, English, German, Lithuanian and Polish.
- will test and implement this learning concept in blended-learning training courses for teachers and vocational counsellors in six European countries (Austria, Bulgaria, Germany, Lithuania, Poland, United Kingdom).

4 The MOSEP train-the-trainer course

4.1 General concept of the course

In the MOSEP train-the-trainer course, participants will first be introduced to e-portfolio concepts. They will be made aware of the fact that an e-portfolio is more appropriately not just used as an isolated, stand-alone tool, but rather as a component of a personal learning landscape (PLL) as conceptualised by Dave Tosh & Ben Werdmuller (2005), a personal learning environment (PLE) as presented by Jeremy Hiebert (2006) (see Figure 1), or of an e-portfolio management system (ePMS) as described by Serge Ravet, all of them reflecting a person’s “digital identity” (Ravet, 2007a + b).

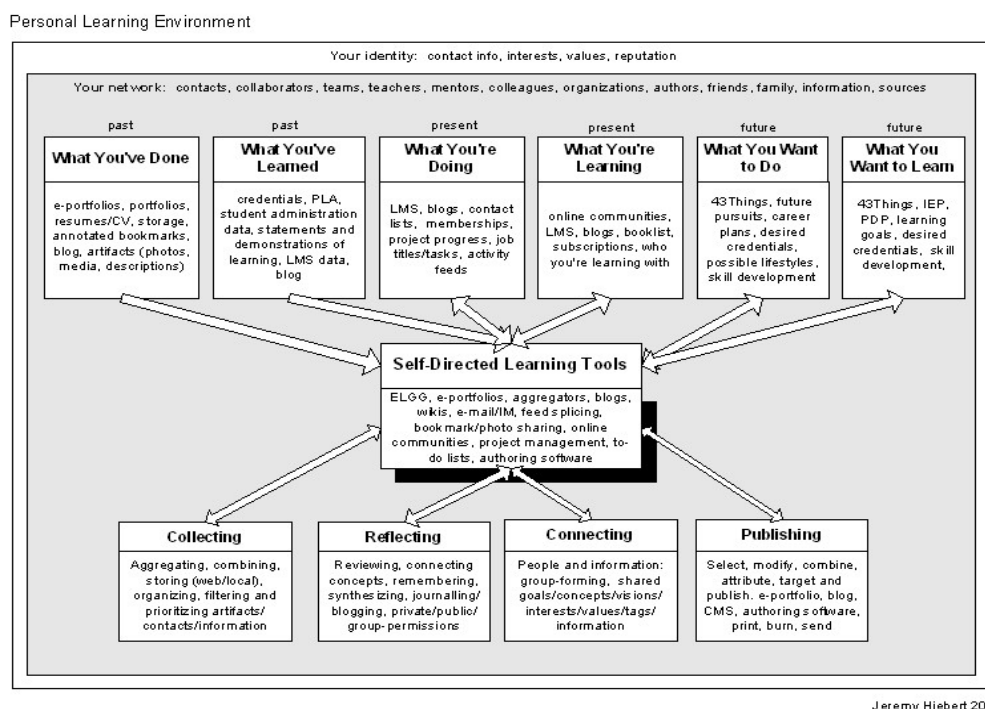


Figure 1: Hiebert, J. (2006) *Personal Learning Environment Model*.

4.2 OER – approach

In all educational sectors, innovative e-learning applications increasingly tend towards using publicly available and freely accessible digital contents on the Internet, collectively generated knowledge bases like Wikipedia or open source-based learning and knowledge management software like Moodle, OSP, ELGG / EduSpaces, Mahara etc.

This ‘Open Educational Resources’ (OER) movement was initiated by UNESCO in the year 2002.

In appreciation of the great advantages of OER, the MOSEP consortium responds to the idea of open educational resources. It proposes the use of open source tools for the development of adolescents’ e-portfolios and therefore has chosen WikiEducator (www.wikieducator.org/MOSEP) for MOSEP course development. However, the final version of the course will be delivered via an open and freely available semantic Wiki system (IkeWiki) and maintained by Salzburg Research (SRFG) for the duration of the project.

4.3 Structure of the MOSEP – course

The course consists of five modules, each of which is broken down into a number of sessions.

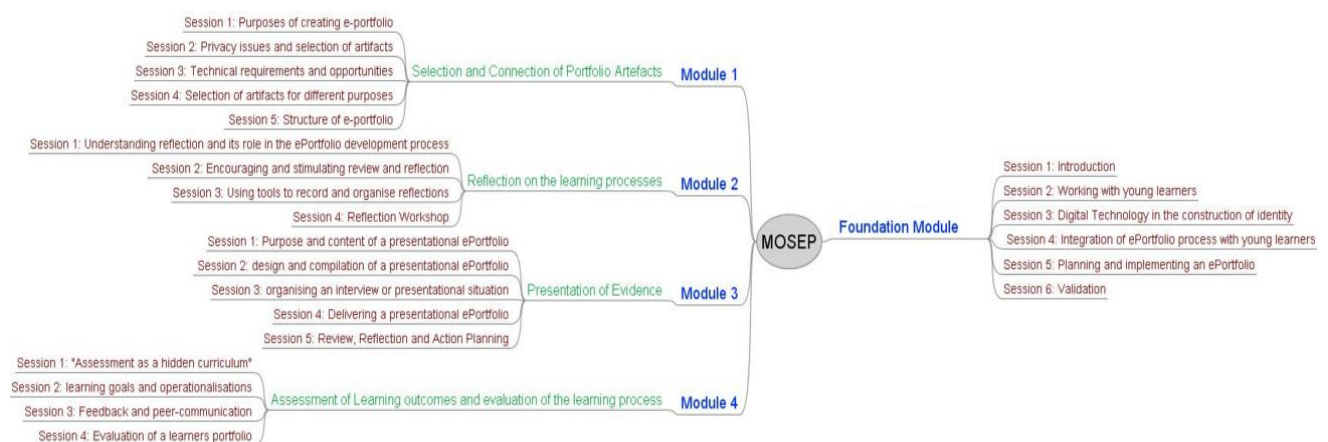


Figure 2 : / MOSEP Consortium (2007) *MOSEP Wiki Course*

Foundation module: What is an e-portfolio and what are its advantages ? How to plan and implement an e-portfolio?

To start working with e-portfolios, one needs to know exactly what e-portfolio work means and how it can be planned and implemented. These questions will be answered in the ‘Foundation module’, which gives an introduction to the whole topic and should be read first.

1. Introduction | Why e-portfolio?
2. Working with young learners | How can I support young learners?
3. Digital technology in the construction of identity | Why might they need it?
4. Integration of the e-portfolio process with young learners | e-portfolio and curriculum – which barriers, which strategies?
5. Planning and implementing an e-portfolio | How to plan and implement an e-portfolio?
6. Validation

Module 1: Selection and connection of portfolio artefacts | How can I select artefacts and connect them to each other?

1. Purposes of creating e-portfolios | Why create e-portfolios?
2. Privacy issues and selection of artefacts | Who owns the e-portfolio?
3. Technical requirements and opportunities | What do I need, what do I get?
4. Selection of artefacts for different purposes | What do I need for which reason?
5. Structure of e-portfolio | What is the best way to structure it?

Module 2: Reflection on the learning process | How can I reflect on my own learning process during the e-portfolio work?

1. Understanding reflection and its role in the e-portfolio development process | Why is reflection important?
2. Encouraging and stimulating review and reflection | How can I encourage my learners?
3. Using tools to record and organise reflection | What is available and what is appropriate?
4. Reflection workshop | How to set it up?

Module 3: Presentation of evidence | How can an e-portfolio be presented?

In this module, course participants will learn how to organise a possible presentation of e-portfolios and their artifacts and how to initiate an interview.

1. Purpose and content of a presentational e-portfolio | What is a presentational e-portfolio and what are its purposes?
2. Design and compilation of a presentational e-portfolio | What are possible options for designing and compiling an e-portfolio ?
3. Organising an interview or a presentational situation | How to plan and design it ?
4. Delivering a presentational e-portfolio | What do I have to consider?
5. Review, reflection and action planning | What are the necessary steps?

Module 4: Assessment of learning outcomes and evaluation of the learning process | How can assessment be carried out ? How can the learning process be evaluated?

Here teachers will learn why assessment is important, how to plan and guide assessment of e-portfolios and how feedback and evaluation can be carried out.

1. Assessment as a hidden curriculum | What does that mean?
2. Learning goals and operationalisations | How can I create them ?
3. Feedback and peer-communication | How can I activate and motivate my learners' feedback and communication?
4. Evaluation of a learner's e-portfolio | How can summative assessment be tackled?

(MOSEP Wiki Course, 2007, described in Summary Report of the MOSEP study, forthcoming on www.mosep.org)

The course-wiki will be available in the MOSEP-partner languages: English, German, Polish, Bulgarian and Lithuanian and has been planned as a multimedia-enhanced course. The following components will be integrated into the course:

- Video-sequences (Attwell, 2007a)
- Audio Podcasts
- Screencasts

In order to be able to support students in the process of developing and maintaining e-portfolios, the teacher-trainers / trainers will have to gain experience themselves and to develop "reflective development portfolios" as an integral part of the course. They will be asked to store their artefacts, their work, their activities and their reflection on the MOSEP course. Finally, as a course requirement, participants will have to compile a presentational e-portfolio, which will be used in interviews to demonstrate their competences as regards the development of student e-portfolios and appropriate student support.

The course does not rely on a particular e-portfolio tool. It is rather designed to be used with whatever tool participants find most appropriate. However, Mahara software has been tested, and interfaces have been created in all the partner languages.

The MOSEP-course is wiki-based and can be implemented without any 'learning management system'. But some project partners have planned to implement the course via Moodle, probably via the EXABIS Moodle extension which is under development.

4.4 MOSEP: Testing and evaluation of the course

The MOSEP course materials were pre-tested in Wolsingham / UK in June 2007. The main tests will take place in all partner countries between December 2007 and April 2008. After these two review cycles and necessary adaptations, the final versions will be prepared and implemented in the partner countries.

The project evaluation will be conceptualised and carried out by Salzburg Research /SRFG and Paedagogische Hochschule fuer Niederoesterreich / PH-PIB. The project results will be presented at 'EduMedia 2008' in Salzburg.

5 Conclusion

In times of a "deep and prolonged industrial revolution based on digital technologies" (Attwell, 2007d), education, like all other social systems, has to respond. It will not be possible to ignore technological developments like Web 2.0 and social networking in educational settings. Otherwise Graham Attwell's prediction might come true that "a refusal to engage in these issues risks school becoming increasingly irrelevant to the everyday lives of many young people and particularly irrelevant to the ways in which they communicate and share knowledge" (Attwell, 2007d).

In this scenario, the MOSEP concept of train-the-trainer courses for the development and implementation of young people's e-portfolios might help to align adolescents' expectations and concepts of learning with the reality in European schools. Thus MOSEP might contribute towards boosting young people's motivation, achievement, self-esteem and - and as a final result - their chances in a globalised economy and society.

References:

- [1] Attwell, G. (2007a) *E-portfolio development and implementation*. Available from: <http://pontydysgu.blip.tv/file/300988/> [Accessed 09-08-07]
- [2] Attwell, G. (2007b) *e-Portfolios – the DNA of the Personal Learning Environment*. Pontydysgu: Available from: http://www.knownet.com/writing/weblogs/Graham_Attwell/entries/7709663746/7896831716/attach/eportjournal.rtf [Accessed 13-08-07]
- [3] Attwell, G. (2007c) *Web 2.0 and the changing ways we are using computers for learning: what are the implications for pedagogy and curriculum?* Available from: <http://www.elearningeuropa.info/files/media/media13018.pdf> [Accessed 09-08-07]
- [4] Attwell, G. (2007d) *Personal Learning Environments*. In: 2. *Scandinavian Research and Development Workshop on emerging technologies and learning - Scaffolding learning – web 2.0 and e-portfolios, 7 – 8 May 2007, Odense*. Available from: <http://www.slideshare.net/GrahamAttwell/personal-learning-environments-46423> [Accessed 13-08-07]
- [5] Balanskat, A., Blamire, R. and Kefala, S. (2006) *The ICT Impact Report: A review of studies of ICT impact on schools in Europe*. Available from: <http://ec.europa.eu/education/doc/reports/doc/ictimpact.pdf> [Accessed 02-08-07]
- [6] Barrett, H. (2005) *Electronic Portfolios: Digital Stories of Lifelong and Lifewide Learning*. Presentation at the Eifel ePortfolio Conference 2005. Available from: http://www.eifel.org/publications/eportfolio/proceedings/ep2005/barrett_Eifel2005.pdf [Accessed 02-08-07]
- [7] Barrington-Leach, L. et al (2007) *Investing in youth: an empowerment strategy* Available from: http://ec.europa.eu/dgs/policy_advisers/publications/docs/Investing_in_Youth_25_April_fin.pdf [Accessed 13-08-07]
- [8] Becta (2003a) *What the research says about ICT and whole-school improvement*. Coventry: Becta. Available from: http://www.becta.org.uk/page_documents/research/wtrs_ws_improvement.pdf [Accessed 13-08-07]
- [9] Becta (2003b) *ICT and Pedagogy. A review of the research literature*. Norwich: Becta. Available from: http://www.becta.org.uk/page_documents/research/ict_pedagogy_summary.pdf
- [10] Becta (2006) *Delivering the future for learners: harnessing technology*. Coventry: Becta. Available from: <http://publications.becta.org.uk/display.cfm?resID=28628&page=1835> [Accessed 05-08-07]
- [11] Becta (2007a) *How Technology Supports 14-19 Reform*. Coventry: Becta. Available from: <http://publications.becta.org.uk/display.cfm?resID=31532> [Accessed 13-08-07]
- [12] Becta (2007b) *Four-year study shows tailored learning through technology is key route to educational improvement*. Press release. Becta. Available from: <http://news.becta.org.uk/display.cfm?resID=33623&page=1658&catID=1633> [Accessed 01-08-07]

- [13] Becta (2007c) *Impact Study of e-portfolios on learning*. Available from: http://partners.becta.org.uk/upload-dir/downloads/page_documents/research/impact_study_eportfolios.doc [Accessed 30-07-07]
- [14] European Commission (2001a) Reinventing School. In: *Le Magazine 15 – 2001* Available from: http://ec.europa.eu/dgs/education_culture/mag/15/en/page16.htm [Accessed 05-08-07]
- [15] European Commission (2001b) In their own words ... In: *Le Magazine 15 - 2001* Available from: Available from: http://ec.europa.eu/dgs/education_culture/mag/15/en/page17.htm [Accessed 05-08-07]
- [16] European Commission (2001c) Eurobarometer sounds out young Europeans. In: *Le Magazine 15-2001*. Available from: http://ec.europa.eu/dgs/education_culture/mag/15/en/page7.htm [Accessed 05-08-07]
- [17] European Commission (2002) *European Report on Quality Indicators of Lifelong Learning*. Brussels. Available from: http://ec.europa.eu/education/policies/lll/life/report/quality/report_en.pdf [Accessed 10-08-07]
- [18] European Commission (2004) *Facing the Challenge. The Lisbon strategy for growth and employment*. Brussels: European Communities. Available from: http://ec.europa.eu/growthandjobs/pdf/kok_report_en.pdf [Accessed 05-08-07]
- [19] European Commission (2005) *Proposal for a Recommendation of the European Parliament and of the Council on Key Competences for Lifelong Learning*. Brussels: European Commission. Available from: http://ec.europa.eu/education/policies/2010/doc/keyrec_en.pdf [Accessed 01-08-07]
- [20] European Commission DG EAC (2005). *Study on Access to Education and Training, Basic Skills and Early School Leavers, Lot 3: Early School Leavers Final Report* (Ref. DG EAC 38/04), London: GHK. Available from: <http://ec.europa.eu/education/doc/reports/doc/earlyleave.pdf> [Accessed 05-08-07]
- [21] European Council (2004) *Validation of non-formal and informal learning: Conclusions of the Council and of the representatives of the Governments of the Member States meeting within the Council on Common European Principles for the identification and validation of non-formal and informal learning*. Available from: http://ec.europa.eu/education/policies/2010/doc/validation2004_en.pdf [Accessed 10-08-07]
- [22] European Parliament (2006a) Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning. In: *Official Journal of the European Union*, L394/10. Available from: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_394/l_39420061230en00100018.pdf [Accessed 10-08-07]
- [23] European Parliament (2006b) Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning. In: *Official Journal of the European Union*, L394/10. Available from: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_394/l_39420061230en00100018.pdf [Accessed 10-08-07]

- [24] European Youth Forum Jeunesse (2005) *Policy paper on Recognition of non-formal education: Confirming the real competencies of young people in the knowledge society*. Available from: http://www.youthforum.org/Downloads/policy_docs/learner-centred_education/0716-05.pdf
[Accessed 10-08-07]
- [25] European Youth Forum Jeunesse (2007) *Rome Youth Declaration*. Available from: http://europa.eu/50/docs/rome_youth_declaration_en.pdf
[Accessed 01-08-07]
- [26] Eurostat (2007) *Europe in figures – Eurostat yearbook 2006-07*. Luxembourg: Office for Official Publications of the European Communities. Available from: http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-CD-06-001/EN/KS-CD-06-001-EN.PDF
[Accessed 05-08-07]
- [27] Federation of Austrian Industry (2007) *The Future of Education: School 2020. Learning – Growth – Prosperity (Summary)*. Available from: http://www.iv-mitgliederservice.at/iv-all/publikationen/file_392.pdf
[Accessed 05-08-07]
- [28] Fielding, R. (1999) *The Death of the Classroom, Learning Cycles and Roger Schank*. Design Share. Available from: <http://www.designshare.com/index.php/articles/death-of-the-classroom/>
[Accessed 10-08-07]
- [29] Green, Hanna & Hannon, Celia (2007) *Their Space: Education for a Digital Generation*. London: Demos. Available from: <http://www.demos.co.uk/files/Their%20space%20-%20web.pdf>
[Accessed 05-08-07]
- [30] Hiebert, J. (2006) *Personal Learning Environment Model*. HeadspaceJ-Blog contribution. Available from: <http://headspacej.blogspot.com/2006/02/personal-learning-environment-model.html#114027184650255531>
[Accessed 10-08-07]
- [31] Hornung-Prähauser, V., Geser, G., Hilzensauer, W., Schaffert, S. (2007) *Didaktische, organisatorische und technologische Grundlagen von E-Portfolios und Analyse internationaler Beispiele und Erfahrungen mit E-Portfolio-Implementierungen an Hochschulen*. Salzburg: SRFG. Available from: http://edumedia.salzburgresearch.at/images/stories/e-portfolio_studie_srfg_fnma.pdf
[Accessed 31-08-07]
- [32] Karapidis, A. (2005) *Leadership IQ Study: Why New Hires Fail*. München: Frauenhofer-Gesellschaft. Available from: <http://137.251.109.40/dl2000/termsfuse.php?PHPSESSID=cc5fae67599368616851f6bac5f89eef>
[Accessed 10-08-07]
- [33] Komoski, K. (2007) *21st Century Teachers and Learners: Prosumers in a Bi-literate Knowledge-Driven World*. In: *AACE-SITE 2007, 25 – 27 March 2007, San Antonio*. Available from: http://www.aace.org/conf/SITE/komoski_invited.doc
[Accessed 08-08-07]
- [34] Molina, A. (nd) *Is ICT-based Innovation in Educational Systems Truly Important? Overview of Key Development, Trends and Policies Shaping Education in the 21st Century*. Edinburgh: University of Edinburgh. Available from: <http://auxilia.e-inclusionsite.org/materials/document1.doc>
[Accessed 10-08-07]

- [35] MOSEP Consortium (2007) *MOSEP Wiki Course*.
Available from: http://www.wikieducator.org/MOSEP_overview
[Accessed 08-08-07]
- [36] Pallister, J. (2006) *Implementing a multimedia e-portfolio to support learning, achievement and progression*.
Available from: http://www.e-me.org.uk/live_site/documents/paper_Europortfolio_2006_Oxford.doc
[Accessed 08-08-07]
- [37] Partnership for 21st Century Skills (2002) *Learning for the 21st Century: A Report and Mile Guide for 21st Century Skills*. New York: Partnership for 21st Century Skills.
Available from: http://www.21stcenturyskills.org/images/stories/otherdocs/p21up_Report.pdf
[Accessed 10-08-07]
- [38] Passy, D. (2004) *The Motivational Effect of ICT on Pupils*. Lancaster University: Department of Educational Research.
Available from: <http://www.dfes.gov.uk/research/data/uploadfiles/RR523new.pdf>
[Accessed 08-08-07]
- [39] Prensky, M. (2007) *Building Learning Communities 2007: THE DEATH OF THE CLASSROOM AND THE REBIRTH OF LEARNING IN THE 21ST CENTURY*
Available from: <http://nlcommunities.com/communities/blc06/archive/2007/05/23/136315.aspx>
- [40] Ravet, S. (2007a) *For an ePortfolio enabled architecture*, Position Paper (V 1.1). Paris: EIfEL.
Available from: <http://www.eife-l.org/publications/eportfolio/documentation/positionpaper>
[Accessed 10-08-07]
- [41] Ravet, S. (2007b) *ePortfolio for 21st century Learners: Building eStrategies for learning*. Presentation delivered at ePortfolio Hong Kong – New Zealand, March 2007. Paris: EIfEL.
Available from: <http://www.eife-l.org/publications/eportfolio/proceedings/asiapacific07/eP%20HK%20NZ%20%2021st%20century%20learning%20S%20Ravet.pdf>
[Accessed 10-08-07]
- [42] Rosenfeld, S. (2004) *Dancing with the Muses: How Educational Technology Might Help Bridge the Gap between Formal and Informal Sciences Learning*. In: Sotiriou, S. (ed.) *International Symposium on Advanced Technologies in Education, 4 – 6 July 2004, Kefalonia*. Kefalonia: Lab of Tomorrow & EUDOXOS Consortia, pp. 79 – 85.
Available from: http://www.iacm.forth.gr/educational/Publications/ainos_proc.pdf
[Accessed 01-08-07]
- [43] Tosh, D. (2005) *A concept diagram for the Personal Learning Landscape*. *Eduspaces - learning web 2.0*: 8 April, 2005. BLOG [online].
Available from: <http://elgg.net/dtosh/weblog/398.html>
[Accessed 01-08-07]
- [44] Urdan, T., Weggen, C. and J. Lee (2005) *Education Services, Class Notes. Weekly Insights on the Education Market: 11 October 2005*. London: Baird US Equity Research

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