LOGGED-ON State-of-Art report - Summary

1.0 Introduction

The LOGGED-ON project partners work within a wide range of educational and economic contexts. These are detailed in their individual State of the Art (SoA) reports. They range from countries and regions with near full employment and ICT-rich learning environments   to those with more limited classroom access to ICT and more challenging socio- economic conditions. However, there is a striking similarity of practical educational challenges faced by colleges and schools   in these varying contexts. The LOGGED-ON SoA reports show the enormous opportunities to promote learning and digital citizenship offered by Web 2.0 based learning in different educational contexts. This new technology is widely used by learners in the partner's organizations, demonstrating how they are able to use and benefit from the opportunities provided to develop their education. Very importantly, the SoA reports show that this is now possible without the huge capital expenditure that previous IT projects in education required. Web 2.0 is built to serve the mobile smart devices which are owned by the vast majority of all of our partners' learners.

However, just as the opportunity for exploiting Web 2.0 is available to all partners, so is the main challenge to making it happen: *the ability and willingness of teachers to harness its potential*. Each partner describes its teachers as having very mixed ability and confidence when using Web 2.0 technology in a professional context. The SoA reports suggest that teachers who are innovating and already using Web 2.0 to promote learning are doing so because they have generated competence from personal use and then become professionally innovative "self-starters". LOGGED-ON seeks to pilot learning technologies and to explore which are most pedagogically effective , and how innovative "best practice" can be more widely promoted, disseminated, and supported   inside and outside the partners' own organisations.

1.3 Demographic/economic factors

The SoA reports identify a range of demographic and economic conditions that our partner organisations work within.

In some countries, particularly in Spain and Ireland, our partners' learners face a more challenging economic environment when seeking employment. Students leaving The Institut Cal·lípolis in Catalonia, for instance, with "unemployment rates of 17.5% at the end of 2015" (SoA Spain), face great difficulties finding work, particularly i highly paid employment. Competition will be high for the few job opportunities that do arise. This economic situation has led to the 'migration of local young people to other European countries.' (SoA Spain). In County Clare in Ireland, the home county of Ennis Community College, unemployment has dropped from 18.8% in 2011 to around 11% in 2016 but this still leaves 781 young people (under 25) in the county facing unemployment , and 421 in the town of Ennis itself, (Clare Herald: online)

Young people leaving these institutions face a highly competitive job market and require an excellent range of knowledge, skills and behavioural capacities in order to thrive. Effective pedagogy and well developed use of Web 2.0 will help each individual and promote innovation and economic growth more widely..

Partners in England and Norway operate in a different economic context, nationally and/or regionally. With near full employment, their college and school leavers are more able to find employment irrespective of educational outcomes. However, each partner describes an economy that is experiencing economic polarisation.

Our Norwegian partner notes that "Developments in industrial structures, information and communication technologies, increased competition and efficiency mean the need for unskilled labour has declined. The demand for workers with technical and vocational upper secondary education and people with higher education will continue to increase" (SoA Norway p3).

Similarly, in England, Kendal College "experiences an exaggerated version of some of the UK's national issues; an ageing population and employment opportunities at both the high and low end of the earnings spectrum but little in the middle" (SoA England p4). Therefore, learners progressing through the educational system are best suited to benefit from a more positive economic climate only if they have the high level of technical and professional skills required to thrive in a modern, highly skilled role. Again, there is a clear need for effective pedagogy to generate the required knowledge, skills and behaviours which includes the effective harnessing of Web 2.0, and most notably the capacity to embrace further innovation in communication technology as it develops.

1.4 Variety of Education systems

The variety of Educational systems described by the partners affects the ways in which they can respond to Web 2.0 opportunities in their own organisations. This is apparent throughout the reports, particularly in relation to variations in funding rather than educational structures.

Variations in funding, rather than educational systems and structures more generally, are revealed in the different levels of IT infrastructure, hardware and software available within each institution. One issue which seems to be more specifically related to partners' different educational system is the extent to which web services are coordinated by external agencies. This impacts upon each partner's capacity to offer wireless internet connections to their students and the potential for students to access the web via their own devices. This is a significant factor affecting variations in partners' choice of case studies to pursue through the LOGGED ON project. .

2.0 Current ICT situation of LOGGED-ON partners

Each partner has described their IT capability and capacity in in their more detailed SoA reports. Highlighting the following contrasts gives an overview of the pedagogical context for each of the partner's subsequent case studies.

2.1 IT resources – infrastructure, hardware and software

There are wide differences in the ratio of students per computer available to students from the partner organisations, as listed in the table below;

Country	Student/computer or tablet
Norway	0.8/1
Spain	5.1/1
England	1.2/1
Italy	7.9/1
Ireland	2.3/1

Whilst this this table makes the difference seem stark, it is too simplistic a measure of the IT experience offered to students in each institution. Each partner's SoA report   details the software available to its students. It is clear that each is tailoring its provision to best meet the need of its students. Schools with higher student/computer ratios are timetabling this resource very differently. For instance, computer rooms in Spain and Italy are carefully timetabled 'rooms'. In Norway, where each student has a laptop computer provided by government agencies, the trend is away from specialist rooms; "Given that most students use their own portable PCs in school, the ICT department decided to remove desktops from classrooms" (SoA Norway p14).   Overall, though, variations in raw resources are clear and it is reasonable to assume that the utilisation of available ICT resources is higher where the ratio of computers to students is lower.

Another varying contextual factor is the organisation's ability to harness the full capacity of student devices, including smartphones, to supplement and in some cases replace the need for school's own hardware (further information below). This ability is greatly facilitated by having a quick internet connection and a wi-fi capacity that allows students to log onto the school's network. Three partners (Norway, Spain, England), all with 16-19 year old students, have this facility . Our Irish partner, Ennis Community College, has younger students (from 11 upwards) and the provision of free access to ICT is more problematic.

In Italy, Scuola Ladina di Fassa faces particular challenges in this regard ….. "fast 20Mbps connection is available only to 21% of Italian internet users (cf. the European average of 62%) and 30 Mbps speed only to 1% (cf. the European average of 21%)" (SoA Italy p7).   "Unfortunately", therefore, "due to poor connectivity in the geographical area where we live, we still haven't been able to develop any BYOD policy, though we estimate that almost all of our students possess a laptop computer or a tablet in addition to a smartphone." (SoA Italy p18).

2.2 Readiness for IT innovation and case studies

As LOGGED-ON is based around 'case studies' which will explore effective pedagogy, it is relevant to comment on the contextual preparedness of our partners for this activity as described in their individual SoA reports:

- Ireland:
  Ennis Community College has, for many years, been in the forefront of technological advancement ... "College management has supported this through policy formation and, in as much as was possible, through financial investment." (SoA Ireland). Several examples are given, perhaps most notably the School's pro-active embracing of 'flipped learning' a concept which   encourages students to watch demonstrations and presentations online prior to their class and then be supported within class to hone and consolidate their skills and knowledge supported by the teacher. The 'Flip' is that work traditionally done in class becomes 'homework' and what was 'homework' becomes the content of the class. Ennis Community College has set up a 'Core team' with relevant equipment and software to generate their own video content to support this.

- Spain:
  Institut Cal·lípolis has well-developed virtual learning environments (VLEs) and a high proportion of learner groups use social media as an effective form of educational communication; "Most groups organize their own chat services in WhatsApp or Facebook" (SoA Spain). Their SoA report indicates that most of this has been grown organically by encouraging motivated teachers and disseminating best practice.

- England:
  Kendal College provides a well-developed VLE for its learners. Some departments go beyond this. Students blog their coursework and tutors feedback on these blog posts. This allows some departments, particularly in creative arts subjects, to expect students to blog their responses to course work. (SoA England p9). In these subjects, the media rich environment allows students to comment on prompts given by tutors or annotate their own creative projects.

- Italy:
  Scuola Ladina di Fassa has its own "YouTube channel called 'Spazioarte' where students upload the videos they shoot and edit, such as interviews, promos, clips from TV reports, documentation of didactic practices, projects and activities, participation in events, virtual tours, exchange experiences" (SoA Italy p17). This helps engage students, parents and the wider community in a modern, media-rich way that actively supports the minority language of Ladin and its wider stakeholders in an innovative way.

- Norway:
  Haugaland videregående skole has a proven track record of using IT in a learning environment. It has invested heavily in teacher training to use the IT resources at its disposal, as indicated in ust one example from their SoA report …. "several of the school's teachers have attended the postgraduate course 'Pedagogical use of ICT'" (SoA Norway p17).

It is evident that whilst none of the partners claim overall or general expertise in the effective pedagogical use of IT, they each have professional cultures where experimentation is inspired, supported or encouraged by the senior management in each institution. Each of them is well suited and prepared, therefore, for the adoption and implementation of their proposed case studies for the LOGGED-ON project.

2.3 Digital literacy usage and competency of students

The readiness and ability of students to use ICT independently   within their learning process is important for the case studies proposed within LOGGED-ON. Four partners have discussed this within their SoA reports. The exception is Ennis C.C. in Ireland whose learners encompass a younger age range, as previously mentioned. The students' interaction with IT and their development of associated skills is therefore delivered in a more structured way. Other partners with older students seek rather to utilise existing skills and have spent more time auditing these.

Generally, the partners' SoA reports suggest a high level of ICT usage from their learners, though this tends to be in a social, and not educational, context. For example, in Norway "the student's assessment of their own skills shows that they generally have pretty good faith in themselves" (SoA Norway p6). This faith is also transferred into being ready to learn through the use of ICT …. "Approximately eight out of ten students fully or partially agree that their use of a computer/tablet in school is useful for learning school subjects, makes it easier to learn school subjects and gives more desire to learn" (SoA Norway p7).

Kendal College in also reports that in England, "nearly all 12-15s (96%) have Internet access at home" with mobile technology usage rising sharply "75% of 5-15s, up from 64% in 2014" (SoA England p6).
Social media usage by students is endemic and can disrupt learning on occasion. The high level of web usage particularly via smartphones, due to the trend towards increased availability and miniaturization, "makes education on critical awareness and digital literacy important, however curriculum expectations have not significantly changed over recent years" (SoA England p6). A similar picture is reported in Catalonia at Institut Cal·lípolis. Although only 51.1% of the population aged 16 to 74 years use social media, participation rates are much higher for students (92%) and for those aged 16 to 24 years (91,3 %)" (SoA Spain), suggesting their students have well developed skills for learning based on Web 2.0.

In Italy, 84% of Italian teens use the Internet daily (SoA Italy p6) and a similar percentage of Italian 16-24 year-olds regularly use ICT. However, this datum places Italy third to last in the list of Internet users. "Only 8 Italians out of 10 use the Internet to send emails, 63% use chats, blogs and forums, 57% communicate via Facebook or Twitter" (SoA Italy p7). The market penetration of smart devices and social media usage in Italy is somewhat lagging other European nations as "54 % use social networks 1-2 times a week, 27% 3-5 times a week, 4% more than 5 times a week, 15% never or just occasionally" (SoA Italy p10). Hence our colleagues at Scuola Ladina di Fassa may find web-based projects rather harder to implement than at other partner institutions.

2.4 Digital literacy usage and competency of teachers

Our partners report wide variations in the skills, knowledge and competence of teachers in using Web 2.0 technologies. Indeed, many report that the effective use of these technologies is dependent on and led by those teachers with these higher-level skills - as in England where "Learner experience of ICT at College is patchy, dependent on the tutors they have" (SoA England p11). In Catalonia, this has resulted in describing the early uptake of web-based learning as "spontaneous implementation" (SoA Spain) with other teachers and departments catching up. Many partners recognize the students themselves as drivers of change. In Italy, as a

result of positive student feedback, teachers involved in the project suggested continuing to exploit the great opportunities offered by Web 2.0 tools and will have each student create their own individual blogs/website for CLIL (Content and Language Integrated Learning of foreign languages). A similar example comes from Catalonia where "Most of the time students organize themselves and sometimes «invite» teachers" (SoA Spain).

It appears that nearly all the partners' teachers have a basic level of competence with IT applications. However new and emerging applications reveal a much more diverse level of take-up by teaching professionals. In Norway "the majority of the teachers felt that they could use social media to collaborate with their students, however fewer teachers were confident in the use of collaborative writing tools (such as wikis, blogs etc) with their students" (SoA Norway p7). Hence there were "variations between teachers in terms of what they master regarding ICT" (SoA Norway p10).

The direction of travel in terms of teachers' skills seems positive at all partner institutions. In Catalonia "The percentage of teachers who use ICT continues its upward trend. Therefore, more than 80% use ICT as a teaching tool and over 90% employ it for their current tasks" (SoA Spain). A recent ICT based initiative in Ireland saw "over 95% of teachers embraced it immediately and currently 100% of staff are using it on a daily basis" (SoA Ireland).

Whilst the trajectory in teachers' skills points upwards, some partners also comment that upskilling without linking to pedagogical practice can be unproductive. Where teacher training is divorced from classroom application "one learns how to use the options offered by a certain software product or device, but is given no idea of which projects can be done at a practical level by means of technology" (SoA Italy p23) which in turn creates no positive impact on students.

3.0 Conclusions

This SoA summary has highlighted that our partners' varying economic contexts underline the importance of developing our understanding of how to promote effective pedagogy and harness the potential of Web 2.0 and emerging technologies in education. There is a need in both vibrant and under-stimulated economies for good educational practice to enhance young people's prospects for success through developing higher level skills and the associated technological literacy and responsibility.

The summary above has also shown that this cannot be achieved by simple top-down stimulus or diktat. Students, together with early adopting teachers and departments, are key change agents which need to be harnessed to develop best practice successfully. Indeed, where this is not the case there are significant risks of generating wider problems issues such as those encountered in Ireland ny Ennis C.C..... "other difficulties ensuing from the capital investment [on iPads] included the lack of training for teachers in the use of ICT as a pedagogical tool" (SoA Ireland).

One of the most interesting and rewarding aspects of the SoA reports is their indication of a Web 2.0 "levelling effect" between ICT-rich environments and those with less hardware available. Whilst the market penetration of smart devices varies across our partners, it is uniformly high, especially if compared to the device/student ratio in each partner institution. Harnessing it fully offers the opportunity to skip a generation of capital investment to achieve similar aims. To that end, wi-fi and student's ability to bring their own devices are critical.

Perhaps the most telling point to come out of the State of Art reports is a common theme in how to promote excellent learning through web 2.0 technology which is not related to any purely technological factor. It was clear from the reports as a whole that Web 2.0 technology enabled and inspired teachers (sometimes inspired by students), to create enhanced and excellent learning opportunities. However, "The real paradox consists in the fact that teachers (may) have all the necessary equipment and the ideal environment to carry out a digital lesson but lack the proper training to create a truly effective one" (SoA Italy p23).

Finally:

A. Shared agenda across partners to develop effective pedagogy
B. Effective use of IT to promote learning is primarily an issue of pedagogical practice, not IT facilities
C. There has been no holistic plan to develop the skills
D. Good practice by teachers who are early adopters of Web 2.0 needs to be disseminated more effectively
E. There needs to be further consideration of what is really effective in promoting learning via Web 2.0

Appendices;

Appendix A:
State of Art report – Norway
Appendix B:
State of Art report – Italy
Appendix C:
State of Art report – Ireland
Appendix D:
State of Art report – Spain
Appendix E:
State of Art report – England
Bibliography
Clare Herald; online available at http://clareherald.com/2016/05/drop-in-unemployment-figures/ accessed 15.10.16