Investigating Self-Regulated Learning in the Workplace

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Abstract: Self-Regulated Learning, as well as its enabling technologies Personal Learning Environments and Cloud Learning Environments, signify an important shift in the "status quo" of eLearning. These novel learning technologies enable learners to adjust their learning environment and process to their particular needs and aspirations. This paper investigates workplace learning within a wide variety of business sectors in the UK. The scope of this investigation is to determine the current status regarding the adoption of Self-Regulated Learning in the workplace, as well as the opportunities for the deployment of Personal and Cloud Learning Environments.

1 INTRODUCTION

The advent of Cloud Computing has significantly affected eLearning. Learners nowadays have access to a variety of learning tools and services on the cloud. These tools and services are usually provided by different vendors and in many cases are open and free. Augmenting and configuring the diverse and distributed cloud tools and services in order to address the needs and preferences of individual learners is a significant challenge for modern online learning environments.

The Personal Learning Environment (PLE) is a facility for an individual to access, aggregate, manipulate and share digital artefacts of their ongoing learning experiences. The PLE follows a learner-centric approach, allowing the use of lightweight services and tools that belong to and are controlled by individual learners. Rather than integrating different services into a centralised system, the PLE provides learners with a variety of services and hands over control to them to select and use these services the way they deem fit (Chatti et al., 2007); (Fiedler and Väljataga, 2010); (Wilson, 2008).

The Cloud Learning Environment (CLE) extends the PLE by considering the cloud as a large autonomous system not owned by any educational organisation. In this system, the users of cloud-based services are academics or learners, who share the same privileges, including control, choice, and sharing of content on these services. This approach has the potential to enable and facilitate both formal and informal learning for the learner. It also promotes the openness, sharing and reusability of learning resources on the web (Malik, 2009); (Mikroyannidis, 2012).

Self-Regulated Learning (SRL) comprises an essential aspect of the PLE and the CLE, as it enables learners to become "metacognitively, motivationally, and behaviourally active participants in their own learning process" (Zimmerman, 1989). Although the psycho-pedagogical theories around SRL predate very much the advent of the PLE and the CLE, SRL is a core characteristic of the latter. SRL is enabled within the PLE and the CLE through the assembly of independent resources in a way that fulfils a specific learning goal. By following this paradigm, the PLE and the CLE allow learners to regulate their own learning, thus greatly enhancing their learning outcomes (Fruhmann et al., 2010); (Steffens, 2006).

The European project ROLE (Responsive Open Learning Environments; www.role-project.eu) has been investigating ways to empower learners for self-regulated and personalised learning within a responsive open learning environment. In order to study and evaluate the impact of SRL in a variety of learning contexts, the ROLE project has setup a number of test-beds. Each test-bed has concentrated on researching a large sample of formal, informal and workplace learners (Chatterjee et al., 2011);

(Mikroyannidis and Connolly, 2012); (Mikroyannidis and Connolly, 2013). This paper presents results of this work related to the investigation of SRL in the workplace.

The remainder of this paper is organised as follows. The case study of the ROLE test-bed in question is presented, followed by the results obtained from the survey conducted within this test-bed. The lessons learned from the test-bed are then discussed. Finally, the paper is concluded and the next steps of this research are outlined.

2 CASE STUDY

The case study in question is focused on investigating the challenges and opportunities related with SRL in the workplace. It was decided that the most relevant research instrument for this purpose would be to employ a questionnaire survey. The survey was conducted in the context of the ROLE project among the members of the British Institute of Learning and Development (BILD). Effectively, the survey invited the BILD members to talk about their use of eLearning and, in particular, specific aspects related to SRL, as well as those related to PLEs and CLEs.

By way of introduction to this case study, it is important to know that essentially BILD is a subscription-based organisation that supports its own community through a programme of Continuous Professional Development (CPD). BILD has in excess of 1400 members, all of whom work in the area of Learning and Development. Further details about BILD, as an organisation, can be found at http://www.thebild.org.

In order to situate those who were surveyed for this case study it is essential to describe the BILD community constituents. The member organisations vary in size from small enterprises, such as one/two-man-band Limited companies and Partnerships, to large corporate organisations that ultimately support tens of thousands of learners. In this respect The BILD is ideally placed to trial innovation in learning and design approaches in a number of diverse learning scenarios. It can also be seen that BILD members additionally represent the Private, Public and Voluntary sectors thus covering a wide variety of Business interest areas.

The survey-based approach of this case study enabled us to gather relevant information from participants in order to evaluate the emergent findings using inductive investigative approaches via the use of Grounded Theory.

3 SURVEY RESULTS

An online survey was promoted to in excess of 1400 BILD members through personalised emails inviting recipients to participate in the investigation. The survey was open for a period of 1 month. It was noted that some 159 people completed the survey during this period. In addition, a further 7 people completed the survey after the closing date. It appeared that, overall, responses were very positive about the value of learning technologies. Preliminary analysis of the survey indicated that the majority of respondents had used some form of eLearning, for example, with over half the respondents indicating that they had used a Learning Management System (LMS).

The deployed survey revealed an assortment of information that related to the research topic. Figures 1-5 illustrate the collected information, whilst the subsequent section 4 will describe the emergent themes that were identified from the analysis of this information. It also indicates some of the subsequent research that may be possible to develop as a result of analysing the survey results.

Initially, the survey disclosed the variety of business sectors represented by the respondents (see Figure 1). This respondent community covers a wide variety of private, public and voluntary sectors, as previously indicated, which was reinforced by the respondents in terms of their specific sector types. It is important to note, however, that many respondents reported that they worked across several sectors that included public and private. For example, a training provider may have clients in multiple business sectors such as Service Provision, Health and Local Government and work in both the Public and Private sectors, though their own organisation may be Private Sector. Respondents were invited to select 'other' if they felt the Business sectors were inadequate. 61 respondents selecting 'other' worked in the Private sector, 19 in the Public and 13 in both. 6 selected all three sectors. It should be noted that 'other' was often selected in addition to Business sectors from the list.

Respondents also described a very wide set of job titles, often using multiple terms such as 'Research and training" or "Team Leader" and "Developer". Figure 2 illustrates some of the recurring titles used. It should be noted that the supporting descriptions provided by respondents make it very difficult to group respondents together. It seems that respondents take on a wide range of responsibilities around learning that may culminate in complex job

titles, for example, "Training Executive for Sales and Leadership".

This paints a picture of a highly flexible sample of respondents with a very rich experience of work environments. It does however mean that the context of research must be very clearly defined in order to get meaningful responses from such a diverse sample.
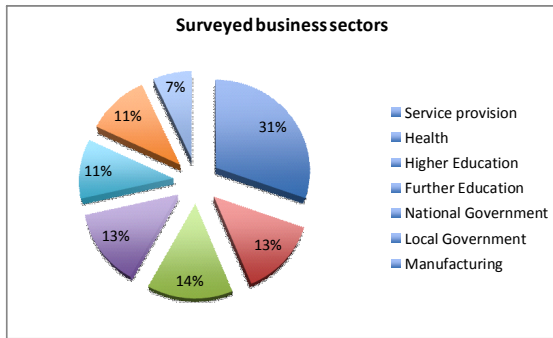

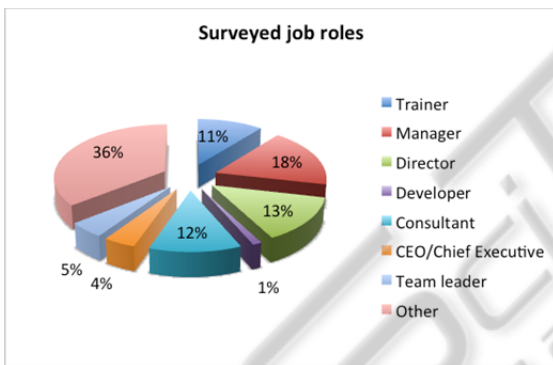Figure 1: Identified business sector respondents in the BILD survey.

Figure 2: Identified job titles from respondents in the BILD survey.

Figure 3 shows the responses regarding the eLearning technologies commonly used by the BILD members. It is apparent that the surveyed organisations are more familiar with the LMS and much less with the PLE. Regarding the adoption of new eLearning technologies, Figure 4 shows that the individual respondents and the organisations they represent have a positive disposition toward new learning technologies. Finally, the respondents' agreement to statements related to SRL is illustrated in Figure 5.
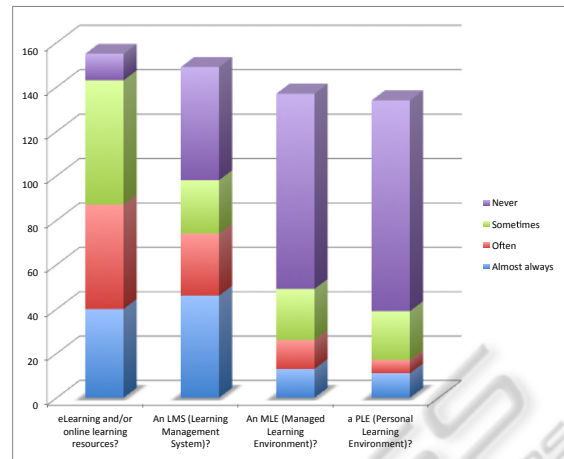

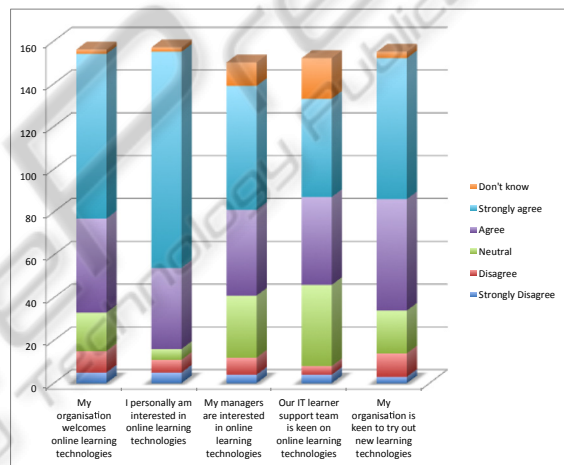Figure 3: eLearning technologies used by the survey respondents.

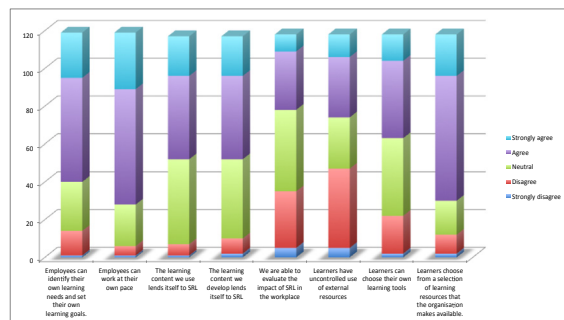Figure 4: Respondents' views on learning technologies.

Figure 5: Respondents' agreement on statements about SRL.

4 LESSONS LEARNED

The survey revealed that there was a perception by

respondents with respect to SRL that it was more time consuming for the learner than classroom teaching:

"Time is the greatest barrier to SRL, especially as many learners are contracted so the company needs to ensure that learning is value for money with a minimum of time away from the workplace."

"As I say, time pressures on management often means that training is pushed to lowest priority. If we offered self-paced learning, it simply wouldn't be done. Currently we offer 1/2 day courses at max, which are driven by me in a classroom setting."

It was also indicated by the respondents that learners needed to be 'prepared' in some way, for a SRL approach to learning. By contrast, however, it emerged that a high number of respondents reported that some employees already exercised choice in the type and style of their learning content, their selection with regard to personal goal setting and electing to adopt appropriate tools. These types of responses would merit further exploration and research in respect of the respondents understanding of SRL and the contexts where it is used. An example of this approach is:

"elearning and materials are made available on our LMS through external resource link such as (BRAND). Main barrier is communicating these resources to employees and encouraging employees to be proactive."

Other information that emerged from the survey indicated that respondents were interested in finding content to support specific skill and knowledge areas. There was also evidence of further high levels of interest by respondents in evaluating and trying out new content. It is important to note, however, that some BILD members are actually developers of learning software. This type of work tends to be highly bespoke and often directly defined in terms of the learner's experience i.e. learners progress through an instructionally designed learning package.

Additionally, most of the survey respondents appear to concentrate on the idea of a blended learning scenario, where online learning is an adjunct to more traditional learning, to deliver specific learning skills e.g. Customer Care scenarios/videos, can be achieved. Finding high quality content and the evaluation of eLearning against more traditional teaching approaches was raised as a concern for example:

"At present we have made strong progress in the supply of materials and options but we now need to

evaluate their usage and impact on learners."

"The biggest issue for us is lack of quality learning material available on-line that are directly relevant to sales people."

It is clear from the survey that the BILD respondents, generally, are keen to try new learning technologies themselves. Nonetheless, they need to have evidence of their effectiveness in order to persuade their clients to adopt, use or incorporate such learning technologies, particularly with those organisations where more traditional learning approaches are currently used. It would appear from the survey responses that eLearning for many BILD members tends to take the form of complete learning packages that lead the learner through a designed series of learning experiences. Assessment is usually tested within the learning package for instance respondents remarked that:

"Most learning topics are provided by the company in a structured way. However more than 500 e-learning titles are available to all employees 24/7. "

"Learners are encouraged to choose - from a range of modules - those which will provide for them the most appropriate enhancement to their chosen Modern Apprenticeship programme."

The survey also indicates that many BILD members continue to have an interest, or perceive they have a vested interest, in prolonging face-to-face teaching as the only effective delivery method. This would appear to be generally related to the experience of delivering training in the workplace, clients expectations and the condition of systems available and the available work in areas of compliance training. The following quotes from survey respondents reinforces this point:

"In general, organisations I work with prefer face to face learning".

"Training is almost always selected on operational need and thus delegates must attend certain courses to have authorised access to systems"

"SRL is currently overshadowed by the understandable prioritization of Statutory and Mandatory training, in these times of efficiency savings."

"This seems to be a very nice idea for some sectors but has limitations when organisations need to ensure employees have required knowledge and many are not very good at identifying their own learning needs as they assume knowledge they only partially have".

"We provide basic e-learning courses, from which learners can choose. Most training to-date is classroom based and tutor led."

"A lot of our training is technical, mandatory, Health and Safety related training and with such compliance culture not many learning options exist for the student. They do what they must do to remain suitably e-qualified."

Despite the various barriers to SRL and eLearning, the majority of respondents saw potential in eLearning and welcomed the opportunity to get involved for example:

"Very interested in PLEs as they are clearly the way learning needs to go. Happy to be involved with any workshops, developer opportunities and being involved in any pilot studies, etc."

"I would like to be able to use this opportunity to introduce development staff at Education Business Solutions to these tools - so they can evaluate them in the context of working with teachers and secondary school children"

There were also respondents who presented as mature eLearning practitioners who were keen to extend their knowledge of PLEs and CLEs. They noted that:

"We provide diagnostics and the learner is encouraged to determine their own development priorities and approach."

"I currently promote ePortfolios (eFolio) as the tool to support independent study, mentoring, peer-review and collaboration."

Nonetheless, in terms of lessons learned, it has emerged that further work needs to be carried out in a number of the investigated areas, for example, in evaluating specific learning technologies and drawing comparisons with other teaching approaches. It can also be noted, at this point, that the BILD community has many members who specialise in the area of empirical research and, as such, can be encouraged to try out and possibly adopt new learning technologies, such as PLEs and CLEs.

With this in mind, the BILD has offered in the context of the ROLE project a series of webinars and seminars to its members, covering a variety of SRL-related topics. These events have targeted a broad audience, including those non-developers who are mainstream trainers, and have enable BILD members to be introduced to the concepts and applications of SRL. The ROLE project has used these events in order to engage with a specific learning community and promote PLEs and CLEs as an innovative and representative learning catalyst for an existing learning community or membership group i.e. BILD. This has offered the opportunity to those participating to explore key issues, and raise awareness about the perceived barriers and benefits of the SRL approaches to learning.

In order to further motivate and facilitate the adoption of SRL within this community, we have also endeavoured into developing and delivering multi-format learning materials about SRL. These learning materials are freely available as Open Educational Resources (OER) and consist of:

- An *online course* about the principles of SRL and the tools that enable it (http://labspace.open.ac.uk/course/view.php?id=7898). The course introduces the concept of SRL and guides learners into using the ROLE tools in order to apply the SRL principles into their own learning.
- An interactive eBook about PLEs and SRL, available for iOS devices (http://projects.kmi.open.ac.uk/role/ibook/ROLE.ibooks). The eBook provides an introduction to PLEs and SRL and gives an opportunity to readers to try a selection of ROLE widgets through a set of interactive learning activities included in the eBook.
- An introductory video about SRL, available in English, German and Chinese (http://youtu.be/jTa1vOH6JjA, http://youtu.be/UkAkFQ5TPOI and http://youtu.be/yRy5ZLT3jQQ). The video explains the basics of SRL through a simple example involving tourism and travel.

5 CONCLUSIONS

In summary, the case study of the BILD membership organisation has been carried out within an identified learning community belonging to a wide variety of business sectors. It involved the deployment of a questionnaire survey and the analysis of the results. The results obtained have helped us gain an insight into some of the challenges and opportunities for enabling SRL through the use of new learning technologies in the workplace.

What we foresee as the next steps of this work is the closer involvement of business stakeholders and the collaboration with them in order to bring PLEs and CLEs closer to business requirements. We plan to collect case studies of stakeholders sharing their experiences through describing their learning processes as individuals in addition to being seen as

sharing that representation with the wider learning community. This would serve both as providing research evidence as well as valuable learning resources for the wider eLearning community too. This would also provide empirical evidence of the value and benefits of the SRL approach.

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