



THE AGILE LEARNER – USING NEW TECHNOLOGIES AND SOCIAL NETWORKS TO MAKE LEARNING A LIFESTYLE, NOT AN EVENT

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Introduction

Education has traditionally been understood as a time-limited process that transpires over a period of months or years, culminating in a capstone event that qualifies a person for successful completion. Students partake of learning for a defined period of time, and then matriculate to real-life after having concluded their education. This ‘train-place’ model of career development assumes that an individual is able to gain the relevant knowledge, skills, and abilities prior to entering the workforce, and maintain the skillset with relatively little need for up-skilling (Corrigan & McCracken, 2005).

Rapid social change and the burgeoning pace of information creation now allows, and perhaps even requires, people to adopt a lifelong learning mind-set. It is estimated that the amount of information present in our world doubles every 18 months today (Gantz et al., 2007), an amount that required 25 years to amass in the recent past (Fuller, 1982). Traditional educational models have not kept pace with these changes, and are struggling to maintain their identity within a continually evolving milieu.

A new model for learning, borrowed from the fields of information and communication technology (ICT) and software development is being proposed that may help learners more readily adapt to the rapid pace of change. Agile Development was originally designed to promote greater efficiency in a transformative technical environment (Beck et al., 2001). Agile Development was unique in its approach to change because it placed a higher value on people and interactions over processes and tools. In addition it promoted a fluidity of learning by advocating for a rapid iteration of ideas in a changing environment and a focus on concrete outcomes. Throughout the past decade, educational practices have begun to mimic ICT growth patterns, and as such may benefit from an adaptation of the Agile Development Model applied to education practices. The Agile Learning Model is being proposed to increase efficiency and help learners to more quickly determine their own learning needs, build their own learning cohorts and determine their own learning outcomes.

Origins of the Agile Methodology

Since its inception, the field of ICT has struggled to formalize the processes used to develop software. Because software development is a highly complex endeavour, it was thought that adopting more formal processes of technical creation and advancement could lead to improved quality in software output. Various methodologies were developed over the years, but most have suffered from considerable overhead, resulting in more focus on process than outcome.

In 2001 a group of software developers met with the goal of creating a more efficient development process. This group, which came to be known as the Agile Alliance, consisted of advocates of most of the popular software-development methodologies of the era. Their discussion culminated in the “Manifesto for Agile Software Development” (Beck et al., 2001), which outlined the group’s core beliefs and recognized the value of flexible thinking and response to change over adherence to structured plans and contracts. The overall focus of the agile method is the creation of rapid iterations in search of learning, an emphasis on a collaborative approach to product development, and placing a value on people over process (Highsmith, 2001; Highsmith & Cockburn, 2001).

Agile for Learning

The Agile Learning methodology is not proposed as a replacement for formal education. It is a paradigm shift, moving to incorporate the key elements of iterative problem solving and collaborative learning, while simultaneously de-emphasizing hierarchical structured learning. As such, it could be tailored to suit formal educational systems, as well as for self-paced informal learning and scholarship within communities-of-practice. Individuals who are instructed in Agile Learning methods from an early age (e.g. primary or secondary school) would further benefit from the model’s principles, as they encourage lifelong learning and continuous professional development. This more accurately reflects the needs of society and supports the concept of an evolving, global knowledge base.

The Agile Learning Model proposes the following basic values:

- Individuals and interactions over processes and tools;
- Acquisition of knowledge over exam preparation;
- Collaborative learning over teacher-led learning;
- Responding to change over following a plan;
- Self-reflection and adaptation over conformity.

At regular intervals learners reflect on the efficacy of their learning, and then adjust accordingly. Because the agile methodology originated in the software-development industry, the process is uniquely well-suited to online learning. The basic tenets of the methodology fit well with online studies, and there are many online and virtual tools to support the agile process. Moreover, it is flexible enough to accommodate learning in larger classes, including

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massive online open courses (MOOCs), without over-taxing the instructor or mentor leading the class.

The advantage of the Agile Learning Model is that it requires learners to assume responsibility for their own learning. Accountability for learning outcomes furthers the growth of innovative problem solving and reinforces an internal locus of control (Masullo et al., 2005). While individuals may choose to form a community to support their learning, the entire process places the learner at the centre of the model. As a result, individuals are free to adopt a learning style that works for their specific needs, increasing success in both tangible and psychosocial terms.

The Agile Learning Process

The circular nature of the agile process is ideal for education because it acknowledges that learning is a continuous process. Agile brings the focus of learning down to small, discrete elements so that learners can rapidly and repeatedly iterate through the entire process. For example, a learning need in an anatomy class would be identified as “What is the effect of frontal-lobe damage?” rather than “How does the brain work?” The core idea is to keep the learning cycles short so that students can adapt the next iteration based upon learning from the previous iteration.



Figure 16. The Agile Learning Process

Although circuitous in nature, the model is best described as a series of steps which move in a directional manner, and which may be repeated to meet evolving needs. Any educational

event, formal or informal, begins by identifying a learning need. In formal education this may manifest as a project assigned by the course instructor. In informal or workplace learning, the need may be defined by a skills deficit. The agile model assumes that the entire need cannot be discovered at the onset. Instead, learners proceed after identifying a partial need, and then on future iterations adapt their learning process to incorporate subsequent discoveries.

Students next determine if they need to form a learning group for support in this process. Once again, this step may be guided by an instructor in a formal education setting. For informal and workplace learning environments, ad-hoc groups may be formed for brief learning processes and then disbanded upon completion. This is similar to the process used to assemble project workgroups in a workplace setting.

The next two successive steps of the Agile Learning process are similar to prevailing learning processes. Students must research new information, consider the implications of various outcomes and then incorporate that learning into their existing knowledge base. There is an implied understanding that there are multiple avenues to knowledge acquisition and that individuals are capable of addressing learning needs through self-identified pathways. It also reinforces cognitive processes of problem solving and critical thinking as well as the soft skills of initiation, collaboration, self-evaluation and adaptive change.

Agile Learning differs from existing models in its final step, and offers flexible solutions to the complex problems of a rapidly changing world. Students must take the responsibility for reflection on the learning that has just taken place. Agile Learning assumes that learning is a continuous process. Students are therefore encouraged to reflect not only on the knowledge obtained, but also the process that led them to the knowledge acquisition. Furthermore, students should come away from this reflection with identification of one or more elements that need to be studied in the next iteration. This leads the student to restart the process in order to learn more, while adapting the process to more effectively help them learn.

Self-Organizing Teams

A core concept of the Agile Learning methodology is the idea of self-organizing teams. Younger generations often resist educational projects that require team-based learning and struggle to conform to the demands of an assigned work group. However, collaboration is an essential function of the majority of jobs in society. Bridging this gap has long been a struggle for educators as well as employers who seek to hire workers with the skills to organize and manage project teams. The creation of self-organizing teams or learning communities may provide a viable solution, as they seek to unite individuals around a shared interest and embed the values of personal responsibility and active influence on the group. Universities and other higher learning institutions are increasingly adopting the use of learning communities to encourage collaborative learning and fellowship. The success of such programs underscores the benefits of Agile Learning in promoting self-awareness and assuming personal responsibility for achieving learning outcomes (Long, 2012).

The advent of social networking tools such as Facebook, LinkedIn and Google+ are ideally positioned to facilitate the creation of self-organizing teams. Learners can now easily connect with people of similar interests or with similar needs. The connection of tools like this to readily-available online learning tools allows learners to create their own communities of practice for purposes of learning. Care must be taken to ensure that chosen tools augment the learning process, a process that can be reinforced by the requirement for self-reflection and iterative change. Thus, rather than using technology to amass existing information, the learner is required to ‘do something’ with the knowledge in order to bring the concept or problem further in its development. With each iteration of the idea, new tools may be required to solve resulting problems, further supporting the use of divergent thinking and collaborative problem-solving. The Agile Learning pedagogy is well-suited to adapting to an evolving online environment as the technology available continually changes and improves.

Agile Learning in Assessment

As noted earlier, Agile Learning is not a replacement for formal learning processes, including assessment of learning. Agile is a root process that can easily fit within formal learning structures. Assessment can play a key role in the self-reflection portion of the agile process, whereby learners regularly reflect on their learning process to determine if they are being effective. The benefits of assessment in an Agile Learning environment are a deeper understanding of the integration of processes and outcomes, including assessment of attitudes about teaching methods, knowledge, and skill acquisition; application of learning; and performance improvement (Mattox, 2012). Therefore, while learners may utilize the Agile Learning methodology to acquire knowledge, there continues to be a need for formal assessment to determine if learning has taken place.

Summary

An Agile Learning approach to education can provide learners with a valuable toolset to help them adopt a lifelong approach to learning. The paradigm of self-guided inquiry marries well with both formal and informal learning systems and is proposed as an alternative to traditional models of instructor-led and scripted dialogues. The approach assumes that learners do not know what they need to know, but are able to discover that by iterating ideas through a defined process. In this manner, learners are given flexibility to acquire knowledge using divergent methods and are empowered to create their own learning community for support as needed. A regular period of self-reflection helps this learning community to refine and adapt their learning methods to changing realities. The process is simple enough to allow a focus on knowledge rather than on the process, while simultaneously providing a framework to guide learners through a continuous feedback loop. The promotion of personal responsibility for achieving learning outcomes offers long-term benefits in self-efficacy and adoption of a lifelong learning approach to personal and professional growth.

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