

Agile universities

Borrowing from concepts first used in the software development industry, **Martin Luckmann** and **Christiane Prange** suggest how modern universities can regain their role

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The university as an institution of higher education derives its name from the Latin term *universitatem* a shortening of *universitas magistrorum et scholarium*, or a community of masters and scholars.

However, modern public universities seem to have been diverted from the vocation of being a knowledge-sharing community and thus a source of efficient knowledge-management and learning. Instead, they have turned into a credit points-producing industry, funneling specialised subjects culminating in exam grades of mediocre importance.

Consequently, universities are being increasingly required to become an integrated part of the network-centric reality of the 21st century, focusing on self-organised and responsible learning.

Three main factors – mechanisation, globalisation and transformational technological changes – pose dramatically new requirements of skilled labour. Yesterday's competences are often no longer valid today when integrated network-like activities dominate business life.

Public universities especially have been criticised for failing to educate graduates according to the needs of this new market. For example, a 2012 survey by the American Society for Testing and Development (ASTD) states that 84% of surveyed employers reported a skills gap in their organisations. A 2012 McKinsey study found that only 49% of employers considered graduates to be adequately prepared for the job market. In addition to industry skill gaps, employers are observing a lack of critical soft skills such as communication, collaboration, creativity and critical thinking in today's workforce.

Research is one of the driving forces of an innovation economy yet the situation here is no less dramatic. The reality of public universities today is sobering and it is no coincidence that support for education and research has dropped. In addition, universities face increasing compliance and reporting requirements with regard to structural reforms and changes.

Several initiatives have been launched to address these issues, such as government projects,

internal reforms, measures and benchmarks for efficiency and productivity, organisational structures and changes in administrative approaches.

However, many reforms of formal education are still using methods that prepare students for the working practices of the past. Recognising and responding to increasing changes and complexity requires a mind shift in the way we allocate responsibility for learning to teams and individuals. Therefore, we suggest a different approach via the concept of the "agile university".

The idea of agile organisations and methods dates back to 2001 and was originally used in software development.

"Agile" represents a set of values and principles guided by self-directed, low-risk and adaptable step-by-step-development for the delivery of IT projects. Instead of suffering from time-consuming, inflexible, highly complex and inefficient procedures, agile methods (such as Scrum or Extreme Programming) provide more flexibility to adapt to changes over time.

An agile approach is different from traditional processes such as the "waterfall approach", which follows a step-wise linear planning sequence; it is more iterative, focused on interaction, collaboration and continuous responses to change. Taken collectively, the agile manifesto (Manifesto for Agile Software Development. <http://agilemanifesto.org>) focuses on four principles, which emphasise the "how" more than the "what" of ongoing work activities:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

The term agile and its underlying principles have become used in a variety of settings such as public and private enterprises, schools and also universities. Indeed, it seems only logical that organisations adopt principles to increase their flexibility and to do things cheaper, easier and faster.

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Thus far reforms, lacking a proper methodology, have not demonstrated reliable ways of creating this culture.

Agile proposes just such a methodology. Agile is fundamentally about learning, people and change, the three things we struggle with in education at present. It can be a powerful aid to learning to transform universities into organisations that are better able to cope with the challenges of external stakeholders. Moreover, agile as a doctrine revisits research on education and self-organised learning proposed mainly in the 1970s and 1980s.

While universities are not centrally about developing software, we will show how the principles of agile development fit in the context of an educational institution. What has been missing up to now is an implementation guide that further helps them to transform into an agile organisation offering content according to agile principles that let the learner take centre stage.

We suggest a three-step procedure to evaluate current learning systems and turn them into agile universities by focusing both on the content (“what”) and the process (“how”) of learning.

First, we propose a set of criteria for diagnosing agile organisations derived from relevant literature on agile software development and agile organisations. This set of criteria takes into account that universities need to maintain a delicate balance between corporate requirements and independence of research and teaching. In order to facilitate this balance, the following principles can be of help:

- High internal autonomy of both learners and teachers
- Autonomy for outputs in the learning process but accountability for results
- Constant reflection on lessons learned
- High tolerance of failure and ongoing improvement
- No hierarchies but knowledge-expert status
- z Clear and open communication

84%

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Second, as agile principles are still sparse in the educational sector (with the exception of recent attempts at offering multiple open online courses), we look first at the “business functions” of a university such as the development of curricula, the recruitment of faculty, the organisation of internships and student exchanges, and so on. These will be assessed and treated in terms of the university as an agile platform and its place within the larger (educational) community. This assessment step connects well to existing evaluation/accreditation procedures such as FIBAA, EQUIS and AACSB.

Third, we look at the “traditional” university function of knowledge development by adopting agile principles, thus transforming institutions into an “agile university”. The traditional functions of a university – knowledge development and knowledge sharing – date back to the 13th century, where it referred to an institution that received students from all places, where it focused not only on the arts but also on at least one of the higher faculties (theology, law or medicine) and where a significant part of the teaching was done by masters, ie practitioners. These original ideas lead us to formulate further guidelines:

- In order to avoid premature specialisation and a lack of general basic knowledge across a variety of disciplines, we go back to earlier times to re-introduce a *studium generale*, which gives students a sound overview of logic (calculus, probability, IT), organisational behaviour (non-numeric structures and processes, law,





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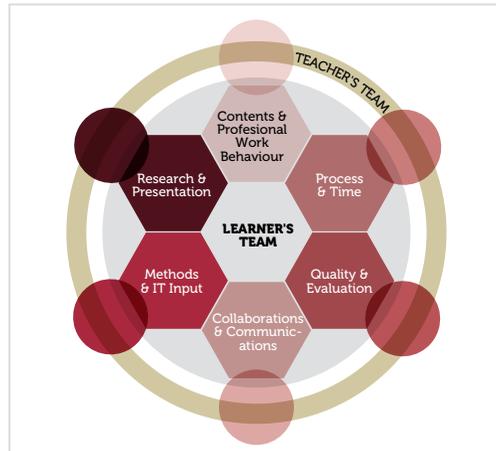


Figure 1

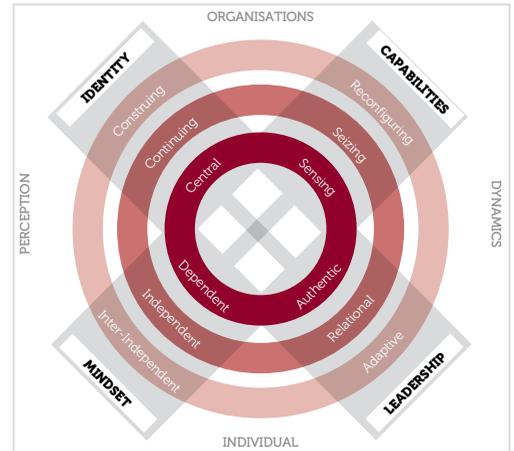


Figure 2

social sciences), social skills (personality, biology, psychology, philosophy), and creativity (fantasy, fiction, arts, communications).

In the context of an agile university, each of these knowledge areas should be reflected upon and scrutinised for its potential to form a basis for entrepreneurship, one of the major objectives of agility.

With the accumulation of a sound knowledge base, the focus will shift towards project-based learning in conjunction with external companies and contracts. This implies that both the learning content and the context will be created through closely interlinked cycles of teams composed of learners and teachers (professors and practitioners). Given that the problems will come directly from corporate practice, students will be exposed to relevant difficulties and activities and will be rewarded by the actual contribution they make towards solving problems. The collaboration between learners and the teaching team involves the following principles (see Figure 1):

- Content and professional work behaviour
- Process and project timing
- Quality and evaluation
- Collaboration and communication
- Methods and IT input
- Research and presentation

• As the re-organisation of learning content, context and processes is likely to result in a transformation of the university itself, the development towards an agile university is likely to incur changes in personnel and organisational issues. These involve the

identity and the capabilities of the institution as well as the mindset and the leadership of its personnel. Assessing each of these dimensions on three levels helps to identify the transformation needs of an institution to turn agile (see Figure 2):

- Identity: central, continuing, construing
- Capabilities: sensing, seizing, reconfiguring
- Mindset: dependent, interdependent, inter-independent
- Leadership: adaptive, relational, authentic

The roadmap towards developing an agile university triggers a pull effect (students and companies driving content and context) more than a push effect (forcing students to learn and adapt to pre-defined curricula). This approach implies that both the learning process and the learning content are more in line with actual practice (and job market requirements) with learners immediately experiencing the results of their work in a practical context. Thereby they will increase their flexibility and adaptability to job market requirements while developing sound knowledge of self-organising project work.



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