Moving towards sustainable policy and practice – a five level framework for online learning sustainability

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Moving Towards Sustainable Policy and Practice – A Five Level Framework for Online Learning Sustainability

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Abstract

This paper addresses the issue of sustainability in online learning in higher education. It introduces and discusses a five-level framework for helping higher education institutions to make the transition from enterprise to sustainable policy and practice in online learning. In particular, it responds to evidence in the literature regarding the lack of sustainability in online learning in higher education. Influenced by Maslow's hierarchy of needs, this framework is characterized by three different clusters: basic needs, institutional motivation, and stakeholders' motivations. It is presented hierarchically within five different levels. Examples are provided for each of the levels and suggestions are given to how institutions should respond to each level.

Résumé

Texte du résumé

Introduction

For the purpose of this paper, we consider online learning as all teaching and learning activities that are designed and mediated digitally in blended or distance learning programs. Since its inception, online learning in higher education (HE) has met some criticism and resistance by its different stakeholders: senior management, academic staff, students, and administrators. A lack of shared understanding of the cost/value relationship (Palmer & Holt, 2010) minimize any substantial adoption into core HE provision (Englund, Olofsson, & Price, 2017; Selwyn, 2013), albeit with distance education providers being the exception.

Until recently, online learning as a component of more traditional face-to-face courses has received skepticism with regard to its value for money and real significance to students' learning experience. A large-scale study conducted by Allen and Seaman (2013) in the United States found that a third of the management bodies in HE institutions providing programs with online learning believed that their related learning outcomes and activities were of a lower

complexity when compared with traditional face-to-face teaching. Similarly, a recent Universities and Colleges Information Systems Association (UCISA) report (Walker *et al.*, 2016) suggested that the use of online learning in different HE institutions in the United Kingdom was still largely confined to supporting the access of lecture notes, e-submissions, marking, and feedback as well as similarity-checking software. Furthermore, only 19% of HE institutions use blended learning as part of guided learning activities (Walker et al., 2016). In the UK, the campus-based learning experience is still very much dominant and limited value is placed on learning online.

However, in other countries, such as in Canada, evidence suggests that online learning and distance education has been increasing. There has been an annual growth rate in online enrollments and most institutions (83%) have an active role in offering online and blended learning programs (Bates et al., 2017). A report by Bates et al. (2017) indicated a major move towards blended learning in most Canadian institutions as well as an increase in enrollments in distance education courses. Similar findings were gathered in the US in a recent Babson report (Seaman, Allen, & Seaman, 2018), revealing that distance student enrollments have increased for the 14th straight year (Seaman, Allen, & Seaman, 2018). Thus, while being received with some mistrust, online learning, both as part of blended learning programs and distance learning programs, seems to be increasing its market share. Evidencing this, a recent Horizon report (Becker et al., 2017) claims that blended learning will be adopted in HE as a short-trend (within one year) and this suggests that more traditional campus-based universities may be redirecting their offering to be more online. However, both the Horizon report (Becker et al., 2017) and the Tracking Online and Distance Education in Canadian Universities and Colleges report (Bates et al., 2017) raise concerns about the lack of support and developmental activities that HE institutions are providing to their academic staff and that this may be an impeding factor for more effective and sustainable online learning.

This is not particularly surprising as other studies over the years have made reference to the insufficient pedagogical knowledge of academic staff for designing and delivering online learning and the lack of technical and pedagogical support (Blin & Munro, 2008; Englund et al., 2017; Goodyear, Salmon, Spector, Steeples, & Tickner, 2001; Taylor & McQuiggan, 2008). This lack of support then leads to ill-designed online learning content and activities, lack of understanding of best practices, and a more resource-driven approach. It obliges the learner to adopt passive-learning, where resources made available lack a clear rationale and pedagogical underpinning.

Online learning practices often vary significantly between teachers and disciplines. This frequently leads to inconsistent experiences for students, even in the same institution or course (Price, Casanova, & Orwell, 2017; Prosser, Ramsden, Trigwell, & Martin, 2003). Academic staff will have their own beliefs and approaches to online learning, rooted in their own beliefs and experiences of learning and teaching that shape their academic identities (McLean & Price, 2016). These influence how they believe they should be teaching and how they go about it, and how they articulate their practices, particularly in relation to online learning (Englund et al., 2017).

The proliferation of "bring your own device" policies, tablets and smartphones, social media and virtual learning environments (VLE), online assessment and feedback practices,

lecture capture and e-portfolios have further exacerbated how online learning has been used in academia. In order to use technology wisely and, more importantly, sustainably, HE institutions need to develop principled frameworks that guide academic staff in understanding effective policies and practices that capitalize on its potential.

Fundamental questions about the sustainability of online educational practices and processes have not lessened since Salmon (2005) highlighted the complexity of embedding online learning into more traditional provision. A recent meta analyses of 64 empirical papers describing small scale online learning initiatives identified critical factors for the continuation of these activities beyond funded projects (McGill, Klobas, & Renzi, 2014). At least 20 of those projects were fully discontinued after three years of publishing papers reporting project findings. The research found that availability of financial support, wider adoption of the initiative, ongoing support, and development time were highly-rated factors in projects with continuity, and less in non-continued projects (McGill, et al., 2014).

Online learning initiatives are often small-scale projects supported through external or internal funding, driven either by bottom-up approaches or by unsupported decisions and aspirations from senior management and administrators. These all start with great enthusiasm but are often abandoned when they exhaust their resources (Trentin, 2007) or when feedback from stakeholders suggests lack of perceived relevance for their day-to-day activities. The challenge lies in scaling-up from small, locally funded projects to wider, institutionally-sustainable ones (McGill et al., 2014; Trentin, 2007).

When referring to factors that are paramount for ensuring more sustainable innovation in online learning, Salmon (2005) argues that innovations should:

- be situated at the macro institutional level (therefore, having a designated governance that provides a top-down approach);
- have appropriate financial support (beyond the implementation phase of the project so that different stakeholders feel supported);
- be aligned with institutional aspirations for teaching excellence (having an impact on students learning and be rooted in the perception of relevance); and,
- have institutional structures that promote wider adoption (technical and pedagogical support available when needed).

Casanova, Price, and Avery (2018) argue that online learning projects usually fail to achieve a wider adoption and a more sustainable lifecycle for two main reasons. The first is that the project scope may have limitations and may not translate to scale in the wider institution. For example, an initiative to roll-out e-portfolios in the wider institution, based on the success of a smaller scale project in a department, may not be successful due to contextual variations. Different disciplinary areas may have divergent understandings of the pedagogical value of an e-portfolio. A second is that the project needs to be supported by current institutional processes and policies (Kirkwood & Price, 2016; Price et al., 2017). Failure to align with the institutional governance results in different stakeholders discounting the relevance of the intervention in their day-to-day processes and resisting its implementation. For example, introducing online marking rubrics and feedback at scale may not be adopted by academics if they cannot see the relevance for students or for their own marking practice.

In the next sections, we present our understanding of sustainability and the different dimensions that lead to sustainable online learning. We provide examples of how institutions may implement policies and practices to engender this sustainability.

Sustainability and Online Learning

Sustainability is defined as "the ability to continue at a particular level for a period of time" (Cambridge Dictionary, n.d.), "the ability to be maintained at a certain rate or level", and "able to be upheld or defended" (Oxford Dictionaries, n.d.). While definitions vary, there appears to be a common agreement on continuity over time, implying both permanence and consistency with the same degree of efficacy. Although sustainability has been considered from philosophical, historical, economic, political, social, and cultural perspectives (Stepanyan et al., 2013) it is usually more closely associated with environmental science and economics.

In the field of education, the discourse around sustainability has been developed in two broad directions with clear distinctions:

1. Education for sustainability and climate change, which focuses on environmental sustainability as a topic of study through: (a) educational provision and (b) curriculum design as part of transferable skills and values (Azeiteiro, Bacelar-Nicolau, Caetano, & Caeiro, 2015; Musaeus et al., 2018; Otto, 2018); and
2. Sustainability of education and educational policies and practices (Stepanyan et al., 2013), which aims to promote the notion that changes are lifelong and promote consistent efficacy (Casanova et al., 2018; McGill et al., 2014; Stepanyan, Littlejohn, & Margaryan, 2013).

Online learning and education need to consider both of these directions. Online learning has already addressed some issues regarding sustainability. Digitization of documents and resources significantly decreases the need for printing assessment briefs, exams, module study guides, and handbooks, papers and books, lecture notes, and textbooks. This is readily observed in libraries where digitization of documents and the concept of the "Green Libraries" are prevalent (Brodie, 2012; Jankowska & Marcum, 2010).

In 2015, the United Nations approved a declaration with new global sustainable development goals to be implemented by 2030 (General Assembly, 2015). Within this agenda, goal four (pp. 17) sets some challenging recommendations with regard to education and HE, among them:

*   To ensure equal access for all women and men to affordable and quality technical, vocational, and tertiary education;
*   To build and upgrade educational facilities that are child, disability, and gender sensitive and provide safe, non-violent, inclusive, and effective learning environments for all;
*   To substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing states.

Implicitly, the United Nations declaration seems to suggest that distance learning and blended learning are a way forward to respond to the particular challenges risen from the

declaration. They may be instrumental for responding to such challenges, leading HE to widening its provision and engaging with other stakeholders that are typically inaccessible in traditional learning and teaching.

Addressing online learning and the challenges that need to be addressed in the future, Gunn (2010) argues that sustainability should go beyond teaching and learning benefits and ensure support for further development in terms of provision for addressing these future challenges. Trentin (2007) agrees, adding that if an online learning project has the characteristics required to integrate itself effectively and efficiently in the wider institutional context, then the more sustainable and innovative it will be. He argues that innovation and sustainability are linked, and that online learning is less innovative if it is not sustainable. Both authors (Gunn, 2010; Trentin, 2007) agree that online learning needs to be integrated into the institution's policy and needs. This creates wider adoption and an increased sense of relevance for all stakeholders. In short, online learning innovations have to be implemented in terms of the wider institution if it is to respond to the present needs as well as being adaptable for future challenges. This requires the development of institutional policy that embraces online learning projects strategically (Casanova & Moreira, 2017; Czerniewicz & Brown, 2009; Price et al., 2017).

More typically, online learning projects manifest as small-scale initiatives usually supported through internal or external funding and developed to respond to specific pedagogical challenges or the implementation of a new specific technology/tool. Such projects can be driven by individual practice and scholarship, department/school initiatives, or university-wide initiatives. They begin with great enthusiasm but are often abandoned as soon as they exhaust their financial and human resources (Nichols, 2008; Trentin, 2007) or when its value fails to address wider university priorities. When online learning initiatives are not embedded in base-line institutional processes from inception, the relevance for the organization will not be realized and no provision is built-in for business-as-usual after project roll-out (Kirkwood & Price, 2016). Concomitantly, smaller scale projects may have specific limitations which imped a wider adoption (Stepanyan et al., 2013).

A highly influential factor that may impede online learning adoption is the underlying context within which HE teachers work (Englund et al., 2017). They are influenced not only by their discipline and their departmental culture and structures but also by their institutional culture (Englund, Olofsson, & Price, in press). For example, if an institution has a research-intensive culture, academics are more likely to concentrate their time and effort on their research as this will be seen as a more definitive means to gaining promotion and recognition (Kirkwood & Price, 2016). This inadvertently focuses attention away from teaching and scholarship (Boyer, 1990) and thus, engagement with new practices and policies regarding online learning is more difficult to implement.

The discipline, context, and culture of teaching may also result in tensions with regard to online learning implementation. For example, the performing arts subject will be heavily dependent upon practice-based face-to-face support, which is difficult to replicate in an online environment. Teaching staff will correspondingly have their own diverse individual beliefs and approaches to teaching and learning (Prosser et al., 2003; Trigwell, Prosser, & Waterhouse, 2007) and their own identities with regard to the role of technology in learning and teaching (Englund et al., 2017; Hanson, 2009; Hanson, 2010; McLean & Price, 2016).

Kirkwood and Price (2016) present a model depicting the complexity of implementing teaching and learning with technology in HE institutions. They introduce four interrelated factors influencing the instantiation of effective institutional approaches to teaching and learning with technology: (i) the teacher's academic context; (ii) the student's academic context; (iii) the departmental context; and, (iv) the institutional context.

The diagram in Figure 1 is based on research that illustrates inter-relationships between student, teachers, departments, and the institution.
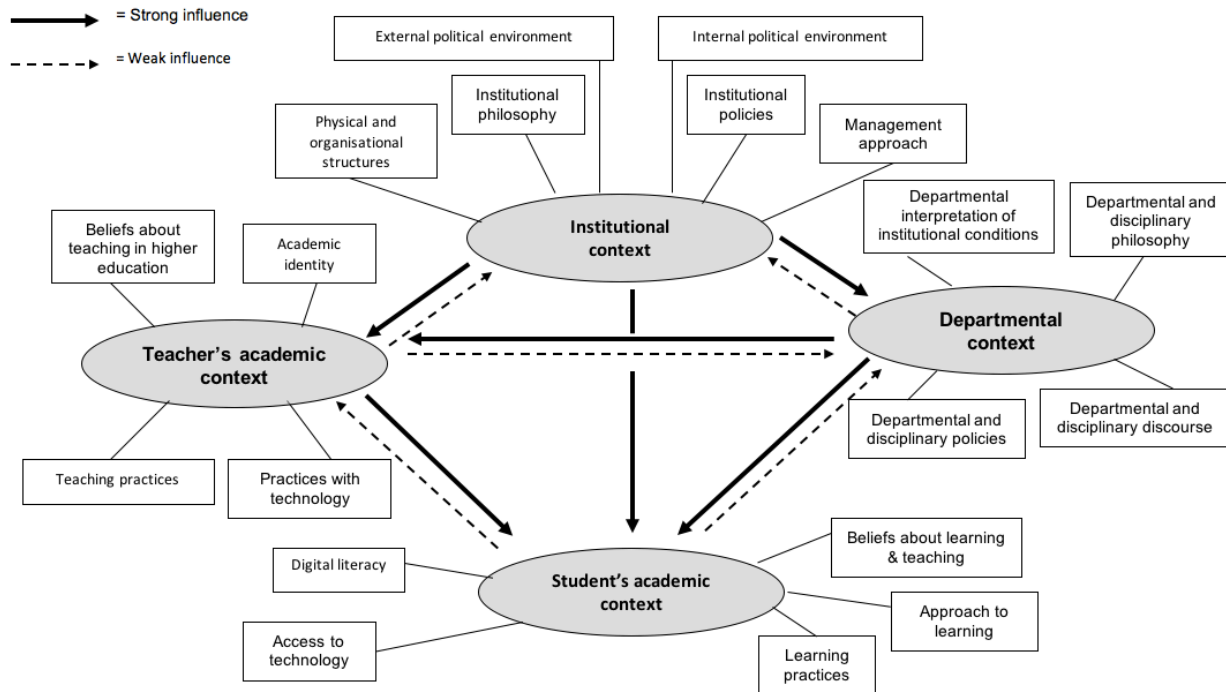

Figure 1. Factors influencing teaching and learning with technology in higher education (reprinted under creative commons licence Attribution Share Alike 4.0 International from Kirkwood & Price, 2016).

The value of this framework lies in the conception of the university as a complex ecosystem, wherein the different stakeholders have their own interests and beliefs, which may conflict with the implementation of an initiative. Hence, it is important to understand and address these factors if sustainable online learning is to be achieved. However, what this model does not illustrate are the building blocks within which these components are encompassed in order to achieve sustainable policy and practice. In the next section we present a framework for sustainable online learning that encompasses this developmental aspect.

A Framework for Sustainable Online Learning

In order to sculpt sustainable online learning, we present a heuristic framework inspired from Maslow's (1943) hierarchy of needs. His model depicts a five-level pyramid of human needs. Ascending from the bottom of the pyramid, each level underpins the accomplishment of

the next (Maslow, 1943). In short, Maslow advocates that people are motivated to achieve a certain need and that those needs take precedent over the development of others. This five-level model can be divided into deficiency needs and growth needs. The first four levels are often referred to as deficiency needs, and the top level is known as growth needs. Maslow's (1943) hierarchy of needs has been used to support research in different areas and more recently in the area of online learning (Chew, Jones, & Turner, 2008; Giannoni & Tesone, 2003; Milheim, 2012).

Informed by the developmental aspects of Maslow's hierarchy of needs, we propose a framework for online learning sustainability that introduces each level as a step that, once acquired, will lead to the next one. Our framework is not associated with individuals' needs as introduced originally by Maslow (1943). Instead, we build upon the concept of development from baseline to advanced requirements in order to achieve sustainable online learning in HE. Our a five-level's pyramid provides a framework for understanding the building blocks required for online learning sustainability (Figure 2). It encapsulates the factors proposed by Kirkwood and Price (2016). The first cluster are basic needs, which are financial/funding support (level 1) and instructional and technical support (level 2). The second cluster represents institutional motivation, which are institutional ownership (level 3) and institutional impact (level 4). The third cluster embodies the personal motivation represented in our framework by the stakeholders' ownership (level 5).
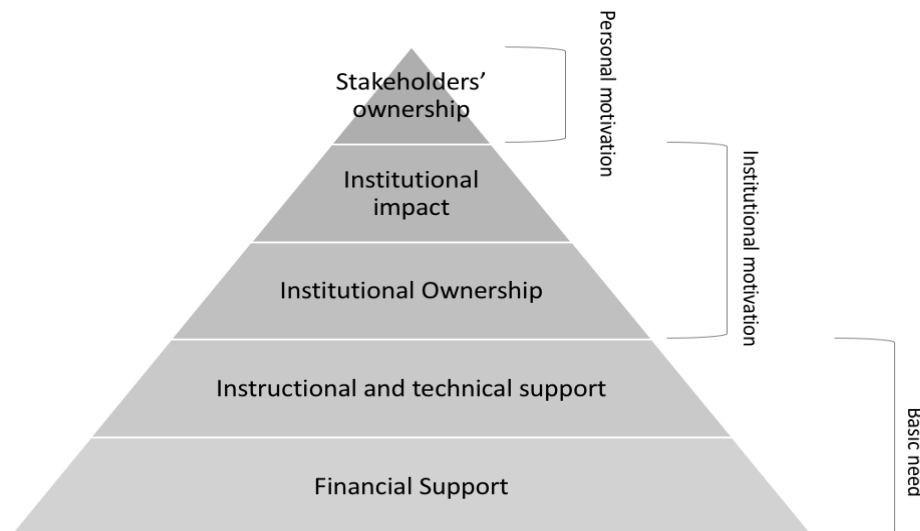

Figure 2. Levels influencing online learning sustainability.

We contend that these five levels influence online learning sustainability and are related to personal and institutional motivations for online learning adoption. In the next section, we introduce each of the levels and how they can be met.

Levels Influencing Online Learning Sustainability

Similar to Maslow's hierarchy of needs, each of the levels of our framework has to be accomplished to provide scaffolding for the next level. So, for example, without proper financial support it would be difficult to provide the necessary technical and instructional support, and this affects both institutional and personal motivations.

Financial Support

Attracting funding is not typically the main problem with online learning initiatives (Conole, Smith, & White, 2006) as they are usually well regarded by institutions and external funding bodies. However, the funding is usually short-term. This provides opportunities for experimentation and implementation but does not ensure sustainability (Conole et al., 2006; Nichols, 2008; Salmon, 2005). The longer a project is supported institutionally, the higher the likelihood that the institution is more committed and embedded. A substantial number of online learning projects start as a research or intervention project with external funding. They are typically short-term and need institutional buy-in after its lifespan. In absence of this, the project tends to slowly diminish its implementation effort. McGill et al. (2014) found that a large number of externally-funded small-scale online learning initiatives discontinue when their funding finishes; this finding is widely supported in the literature (Bates & Sangra, 2011; Salmon, 2005). For projects to be sustainable, they have to acknowledge that transition will be required when the initial project funding ceases; institutions must provide financial and structural support for business-as-usual after project completion. If this financial support is missing, the initiative will not be sustainable.

The first step in gaining financial support is to develop a sound business case. This needs to encompass the scope of the project, rationale, risks and impact, quality and evaluation, project plan, budget, and how the project will be sustainable in the long term. While it is time-consuming initially to construct such detailed document, it serves two very important functions:

- First, it enables clarity around what will be delivered and how, along with the associated costs. This is particularly relevant for university's administrators as it defines the financial scope and resource allocation, for both short and long term. Giannoni and Tesone (2003) suggest that administrators and senior management are not always completely aware of the implications of online learning;
- Second, it provides a clear statement of the project rationale, what it will achieve, and how it advances the university's objectives. This serves an important function in creating foundations for further embedding into university policy and faculty management. By defining, from inception, the project aims and how it addresses university's objectives, foundations will be created that will lead to more alignment with the university's practices. This will facilitate the increased likelihood that it will be embraced as business as usual at a later stage.

The business case is a vehicle for engaging top-level stakeholders across the university, including faculties, technical support, student support services, library services, and estates. It allows all these important groups to understand how the project will affect their areas and how the university will move forward as a whole with the project.

Funding and financial support is the cornerstone of initiating sustainable online learning and we see it as the first basic need on the proposed pyramidal framework.

Instructional and Technical Support

There is considerable research pointing to the lack of pedagogical competencies in online learning; academic staff capabilities are important factors for enabling or impeding successful online learning initiatives (Blin & Munro, 2008; Goodyear et al., 2001; Smith & Oliver, 2000; Taylor & McQuiggan, 2008). Typically, teachers' learning designs and online teaching approaches either reflect how they were taught or are an attempt to replicate face-to-face teaching practices (Englund et al., 2017). This is obviously a constraint with regard to the impact of online learning and a setback for real adoption, as academic staff may be uncomfortable and apathetic to engaging with the process. Not surprisingly, this affects adoption as some staff may feel anxiety, frustration, and even fear of engaging with online learning (Ali, 2000; Littlejohn & Stefani, 1999). This can cause disruption and decrease the value of online learning; that is, it creates more harm than good.

A survey of all HE institutions in the UK (Walker et al., 2016) investigated how the adoption and use of technology-enhanced learning (TEL) tools could be enabled within their institution. Ninety-one percent of the universities said, "by providing support and training to academic staff", and 81% said, "by developing platforms for sharing good practice". This clearly points to the gap in the competencies of academic staff and a pressing need to ensure that staff are well trained in developing online learning.

There seems to be a variety of methods and types of training researched in the literature. This encompasses bespoke training, based on academic staff needs (Taylor & McQuiggan, 2008); one-to-one support (which can be technical or instructional; Price et al., 2017); exposure to new technologies and tools; and, exposure to good pedagogical practices (Graham, Woodfield, & Harrison, 2013). However, an emerging trend is toward more sustainable and evidence-based approaches (Gunn, 2010; Price et al., 2017) and toward training that is more applicable to practice (Graham et al., 2013; Mishra & Koehler, 2006; Salmon, 2002; Salmon & Wright, 2014). These latter approaches are perceived by academic staff as more relevant to their own day-to-day practice. Price et al. (2017) and Gunn (2010) argue for institutionally-shared learning design approaches that provide proof-of-concept, on the basis of evidence and research. This is evaluated and discussed with stakeholders and informs both design and training opportunities. Online learning concepts, designs, systems, and resources have to have proven potential to be adopted and adapted to be used within the wider context of the HE institution to increase the likelihood of sustainability.

Institutional Ownership

Online learning initiatives require institutional ownership for success. Ownership needs to transition from the project-initiators to the institution in order to instantiate institutionally-driven support for policies, guidelines, and wider adoption (Bates & Sangra, 2011; Salmon, 2005). Whatever the source of the project it needs to prove its potential in order to be adopted in the wider context of the organization and to become sustainable (Gunn, 2010).

Rogers (2010) introduces five stages for the implementation of an innovation process in an organization, which he organizes in two phases: initiation and implementation. Within the initiation, phase he discusses the importance of agenda-setting in which a particular problem is identified that may result in the need for an innovation; and the matching phase, which Rogers (2010) labels the moment of aligning the defined problem with the organizational policy and normal day-to-day activities. This is particularly relevant as it is part of the process of creating a sense of relevance.

Within the implementation stage, Rogers (2010) introduces moments of redesigning/restructuring, clarifying, and routinizing. The former moments are part of the ownership, where the organization modifies and adapts the innovation to fit its organizational structure. It clarifies the relationship between the organization and the innovation, in essence, through creation of new policy that explicitly connects the innovation with the organization structure. An example of this could be the existence of an online submission tool for supporting assessment in a university. The clarifying moment is the creation of new policy that stipulates that all submissions will need to be done online through the new tool. The final moment is routinizing, in which the innovation becomes an ongoing element of the organization's activities and policies and loses its individual identity. With the above example, the practice becomes part of the university's business as usual and staff will thus perceive it as routine.

In short, projects need to make the transition from being potentially relevant to the organization to being owned by the organization. To achieve this, projects must be aligned with appropriate policy and practice (Casanova et al., 2018).

An institutional alignment is paramount, but it does not exist without dialogue and compromise, especially if the main outcome is full ownership of an initiative (Moskal, Dziuban, & Hartman, 2013). A university-wide initiative should include representation from faculties/schools in the steering group, in essence, associate deans for learning and teaching, quality leads, or similar roles. This is to allow for inclusive decision-making and buy-in that would be difficult to obtain without dialogue.

The more complex an institution is, the more complicated it will be to embed ownership within the different structures, particularly faculties, who have their own idiosyncrasies and interests.

Casanova et al. (2018) provide an example structure of how to engage different stakeholders in online learning (Figure 3), in particular, a university-wide implementation of a new VLE. An important aspect of this structure is the facilitation of the communication flows and representation from the different stakeholders.
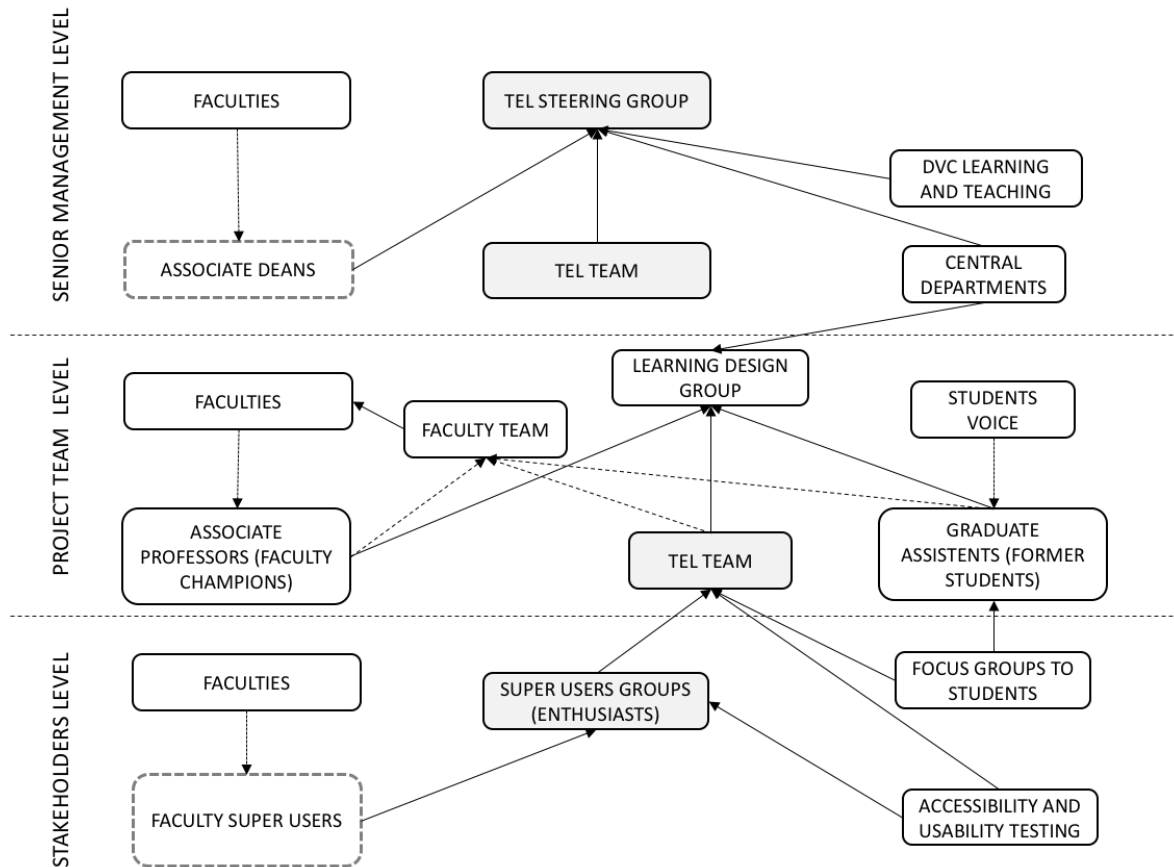
Figure 3. Streams of communication and representation during the Succeed via Canvas project. Lighter grey background represents the structure in place for after the implementation phase. TEL is an acronym for Technology Enhanced Learning; DVC is an acronym for Deputy Vice-Chancellor (Reprinted with permission from Casanova, et al., 2018).

Figure 3 illustrates how commitment across the whole university was achieved. The transition to a new VLE represented a big change in terms of existing procedures (learning and teaching, assessment, administrative procedures, and quality assurance). It involved different stakeholders who saw this transition as an opportunity to change their practices or to express their point of view. The project created the existence of a TEL steering group who guaranteed a space for senior management and others to engage actively in decision-making, having a space to share their views and those of who they represent. Within this group, faculties, central departments, university management, and the students' body were represented. This group also ensured that operational activities were better communicated across different central departments and faculties. The super-user group meetings, with academic, administration and professional staf, also provided vehicles for communication of ground-level activities. It enabled communication of front-line concerns and needs, which had a direct communication line taken back to the TEL steering group (Casanova et al., 2018).

Institutional Impact

The ultimate goal of an online learning initiative should be to have institutional impact (Stepanyan et al., 2013; Trentin, 2007). This impact may be a result of changes and improvements of institutional practices, changes on policy and procedures, increase of students and staff satisfaction, more economically or environmental-friendly practices, or improvement in terms of perception of quality of delivery. However, impact only manifests itself when there is institutional adoption and when there is in place a structure for central, longitudinal data collection for the purpose of monitoring and evaluating the impact of the initiative. Online learning initiatives frequently aspire to short-term impacts, which more complex and large-scale initiatives cannot easily achieve (Gunn, 2010). Impact should be measured as part of in-depth and comparative longitudinal evaluation mechanisms (Moskal et al., 2013).

The process of ownership and impact takes time, as universities are complex systems and communication between different stakeholders is difficult. This may account for why so many online learning initiatives fail to achieve sustainability, as projects can falter when they encounter obstacles. Full adoption is only achieved when the institution is committed and able to generate ownership within itself and within its stakeholders. This typically happens when there is evidence of impact. It is therefore important that impact is acknowledged, publicized, and supported, through different communication channels and to the different stakeholders. This reaffirms the need for online learning initiatives to be supported and embraced institutionally and to allow stakeholders to engage its direction (Casanova et al., 2018).

Stakeholders' Ownership

Stakeholder ownership is a crucial component for engaging staff in the successful sustainable implementation of online learning. This is the top level of the pyramid of needs for online leaning sustainability (Figure 2) and it is aligned with Maslow's (1943) last level of self-actualization. This is where actual practitioners begin building their own conceptions and usage of online learning and gradually develop habits and dependencies that ensure its continuation. Stakeholders need to embrace the relevance of online learning in their own practice and accept ownership by transforming what is provided into their own practice (Gunn, 2010; Trentin, 2007).

To achieve ownership, stakeholders need to feel rewarded and recognized for their work (Garrison & Kanuka, 2004). Incentives may be given in the form of awards, financial incentives, promotion, continuous professional development opportunities, or funding. Stakeholders also require time to experiment and reflect on how to implement online learning into their practice. This is particularly relevant as the main stakeholders (students and academic staff) need to adapt to new dialogues and narratives which they would not be able to master without time to experiment, apply, and reflect. Academic staff will have their own priorities; they have already established teaching and research practices, and innovation and change may not be their first priority if incentives are not provided or if they do not have ownership of the change.

We align with other research that argues that data collected from specific interactions with online learning may generate opportunities for the scholarship of learning and teaching (Benson & Brack, 2009; Kreber & Kanuka, 2013; Moskal et al., 2013). This may lead to innovations and adoption of the technology to promote further developments resulting in better online learning

and potentially better academic recognition. This process generates satisfaction and self-esteem but especially allows a realization of one's own personal potential and self-fulfillment. This corresponds to Maslow's (1943) final level of self-actualization and is also recognized as a key factor for online learning sustainability and success (Chen & Jang, 2010; Giannoni & Tesone, 2003; Hoskins & Van Hooff, 2005; Lee, 2000).

Summary

Our position on sustainability in online learning in HE is underpinned by the concept of embedment in the institution's governance. This is in contrast to initiatives that are typically conceived in terms of the lifetime of the project. Plans to transition to business as usual are typically overlooked. Sustainable online learning requires institutions to plan for transitions from enterprise to sustainable policy and practice from conception. A fundamental step in moving toward more sustainable approaches to implementing online learning is the acknowledgment of the complexity in teaching and learning and that it exists within an inter-related university ecosystem. We need to understand and acknowledge all of the influential factors in this ecosystem in order to guide and facilitate them in rolling-out sustainable institutional-wide online learning initiatives. We proffer that our five-level framework can help HE institutions scaffold their transition from enterprise, to sustainable policy and practice in online learning. By articulating the levels that need to be addressed and suggesting a trajectory, we hope to enable other institutions to aspire to sustainable online learning. The relevancy of our model is anticipated through strategic agendas that HE institutions may be aspiring to in response to the challenges made by the 2015 United Nations declaration and the implementation of its sustainable development goals for 2030.

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