Chapter 4

Learner Agency and the Learner-Centred Theories for Online Networked Learning and Learning Ecologies

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The connections and networks we make both inside and outside of the classroom are critical to our current and future professional success and to the development of lifelong learning skills. Learner agency plays a central role in establishing and building those connections and networks, and by using a variety of online, networked theories, instructors are able to guide and support students in creating and developing their own network of personal learning. These teaching and learning approaches are not limited to heutagogy (self-determined learning), but also include connectivism and rhizomatic learning – all theories that promote learner agency through connectedness and connectivity in the learning process. This chapter discusses these learner-centred theories for networked learning and their role in promoting learner agency in online learning spaces and within learning ecologies as a whole.

Introduction

Education plays a pivotal role in the progress and development of both individuals and societies. Historically, education has been driven by access to information and to knowledge. It has also been assumed that learning occurs better (and is more efficient) in schools and classrooms where the learning can be monitored and controlled. Learning, together with teaching, leads us to education, which can be structured, semi-structured and unstructured. Formal education, as we know it, is mostly structured, with the goal of achieving predefined learning outcomes. Thus, societies have used education to educate and then *harvest* individuals for the greater good of society itself. Such a perspective confirms the view that [structured] education is political and can be used as a tool to organize and control groups, communities, or societies (Friere, 1975). From this perspective, it can be argued that education is a political tool to plant ideas, that learners (without agency) are the final products, and that [Fordist] educational processes are meant to harvest the things planted in learner minds. The implication of this is that when we enforce a single perspective or point of view, learning objectives and structured learning processes become barriers to the free mind, creativity, innovation, equity, social justice and the democratization of education.

Education as described above is easy to implement for those investing in the knowledge economy, because formal education in modern societies has traditionally occurred in classrooms, under the supervision of teachers and inside of controlled systems. However, the abundance of connections to people and information that has accompanied the advent of online networks has resulted in emerging theoretical/conceptual frameworks that have unleashed a new era of learning and enabled unprecedented learner agency. We argue that learning has always been social, contextual, and mostly emergent -- and is about mining data, interpreting information, gaining knowledge through experience, and meaning-making. As learning is social, there are objects and subjects that eventually appear in the relationship of

the knowing and known. In this chapter, we explore theories and practices common to online networks, which provide some tangible solutions for enhancing learner agency by using available online technologies and taking advantage of the affordances they offer.

Online networks

Online technologies have introduced an era of networked societies (Castells, 2004) and networked individuals (Rainie & Wellman, 2012). Online networks, in contrast to formal learning, provide informal learning opportunities, and these new networked societies bring together both physical and digital worlds to create learning ecologies where, “it is difficult to say where one starts and the other ends” (Bozkurt & Keefer, 2017, p. 4). In such learning ecologies, pursuing knowledge and participation “is not mandatory, but rather motivated by an interest to know, share, create, connect and find support, and these activities lead to a range of learning outcomes” (Ala-Mutka, Punie, & Ferrari, 2009, p. 350).

In addition, the affordances of online technologies have created environments and networks that promote learner agency by connecting, collaborating, creating, and sharing in learning processes (Blaschke, 2016; Cochrane & Bateman, 2010; McLoughlin, & Lee, 2007). The advantage of online networks is that learners can join learning ecologies as a networked individual, as well as create collectives of individuals with a joint purpose, which then leads to the eventual building of community (Ala-Mutka, 2010). Such a climate offers learners an opportunity to create their own learning environment and gives them more autonomy, while also giving them more responsibility (Attwell, 2007). This approach impacts on the individual’s learning practices and skills in learning independently, as well as draws on the learner’s intrinsic motivation to know and learn (Saadatmand & Kumpulainen, 2013).

Online learning ecologies

Learning ecologies are comprised of both traditional and online learning environments, as well as of those environments in which learners work, live, and play. Bozkurt and Hilbelink (2019) describe the learning ecology as one in which: living and nonliving entities have a symbiotic relationship both in offline and online worlds. For instance, we interact in offline worlds with individuals, animals, pen, paper, books, and many other entities in our learning processes; similarly, we interact in online worlds with codes, tags, and digitally presented identities. In short, they are not two different things, but an extension of one another (para. 5).

Nonliving entities, such as texts that convey meaning, have more significant roles because they are not mortal. Incontrast to living entities, nonliving entities can bridge past, present, and future. Therefore, it is vital to have symbiotic relationships with nonliving entities as well as living entities. Together they create a complete learning ecology.

A learning ecology perspective fundamentally assumes that learning is nonlinear, emergent, and contextual, thus implying that learning is an ongoing journey. Characteristics of online learning ecologies include:

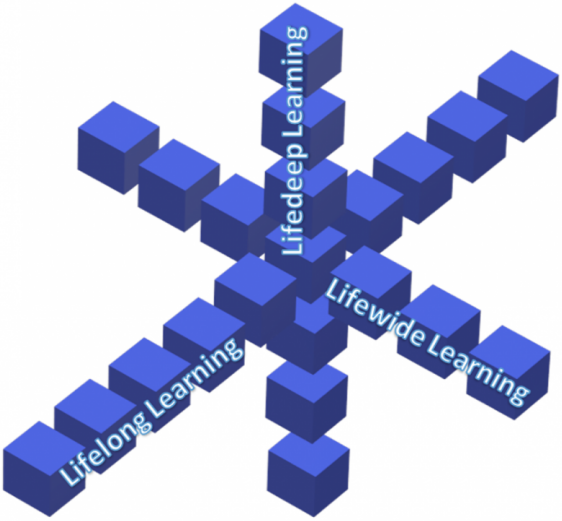
- Learning occurs in the chaos and complexity of a system with multiple layers and multiple communication paths and ways of interacting.
- The learning landscape is transitional and in an intermediate state.
- Learning ecologies are constantly evolving and self-organizing, naturally emerging, and distributed, as well as complex, highly dynamic, open, self-controlled, and self-maintained (Brown, 1999; Chatti, Jarke, & Quix, 2010).
- Learners are enabled to take control of their own learning process (Blaschke & Hase, 2019).

- Production and consumption patterns of knowledge are defined according to the self needs of an entity or individual.
- Knowledge is universal, belonging to all shareholders in and out of the ecology.
- The learning authority is defined by the online ecology itself, and therefore, the learning authority is decentralized.
- The learning ecology is open and easy to enter and exit and, therefore, supports widening participation, which can lead to further democratization of education, the liberation of knowledge, and creation of equity for those who pursue knowledge.

The potential of [networked] learning ecologies lies in facilitating lifelong, lifewide and lifedeep learning (Figure 1). While lifelong learning refers to self-construction of learning, lifewide learning refers to horizontal exploration. Lifedeep learning refers to vertical exploration of the knowledge. In other words, lifelong learning refers to learning during an entire lifespan, lifewide learning refers to cross-pollination across formal, non-formal and informal learning spaces, and lifedeep learning is the extent to which the learning is self-constructed and self-defined. Proposing a multidimensional learning journey requires a space which is transitional, and we can create this space when we give learners agency in a learning ecology, letting learners define the learning themselves.

Figure 1

Lifelong, lifewide and lifedeep learning.



A learning ecology, in addressing all emerging needs and chaos, is a systematic meta-organization and includes all lifelong and life-wide learning domains (Hill, Wilson & Watson, 2004; Looi, 2001). Most importantly, a learning ecology is a living entity, which makes it adaptive and fragile (Jackson, 2013). Therefore, when we talk about learning ecologies, we do not only refer to informal learning and online learning ecologies; instead, a learning ecology is the merging of all the domains – from structured to unstructured, from formal to informal – on a continuum and which provides the flexibility and agency that learners need for meaningful learning experiences.

The challenge in realising of these dimensions of learning is that instructional practices are being "substantially shaped by traditional teaching modes, prescriptive learning outcomes, normative expectations, and conventional hierarchies" (Williams, Karousou & Mackness, 2011, p. 40), which hinder online learning ecologies from reaching their full capacity. These long-established, hierarchical communities, where the stream of the power and power relations have

led to centralized networks of learning, are sharply different from naturally evolving and relatively new online learning ecologies. Because we know that learning is transitional (Savin-Baden, McFarland & Savin-Baden, 2008; Savin-Baden, 2019) and that much of learning happens outside of formal school and training environments (Collins & Halverson, 2010), there is a need for new strategies to exploit the full potential of informal learning in online learning ecologies.

Learning theories for networked learning

The mind is not limited to only cognitive processes: rather, it is a network of the total interactions at individual, social, and universal levels (Bateson, 2000). However, conventional learning theories fail to address this phenomenon or to effectively explain learning in the digital knowledge age. Siemens (2006) argues that "theories of learning today need to account for the rich, dynamic, interconnected, and complex systems in which knowledge is created and shared. Metaphors of learning ecologies and learning networks provide the basis for future educational models, more tightly aligned with the context and characteristics of knowledge today: "chaotic, cross-discipline, and emergent, not hierarchical as reflected in the current approach to course and curriculum design" (p. 53). Therefore, in the digital knowledge age, connections, online learning ecologies and online networked learning theories matter, and it is critical to design education according to theories for networked learning that encompass informal and formal learning, which occurs both online and offline.

Connectivism and rhizomatic learning are two emerging theories of learning, or stories of learning, that propose explanations for learning in our knowledge-intensive digital age. In this context, "connectivism focuses on where the knowledge is and how learners interact on networks, on the other hand, rhizomatic learning focuses on how

learners navigate and detour through the network and pursue knowledge as a creative quest for learning" (Bozkurt et al., 2016, p. 7).

Connectivism

A learning ecology is complex, emergent, highly dynamic, open, self-controlled, self-maintained, and self-organized (Chatti et al., 2010). Siemens (2006) has argued that conventional learning theories fail to explain learning in the digital knowledge age (Siemens, 2006). Introduced as the learning theory of the digital age and as an extension and synthesis of earlier theories (Siemens, 2004), connectivism argues that learning occurs across networks (Downes, 2012; Siemens, 2004), and some networks can "support [learner] agency and cognition" (Downes, 2019, p. 117). Connectivism further argues that "knowledge is distributed across a network of connections, and therefore that learning consists of the ability to construct and traverse those networks" (Downes, 2012).

Siemens (2004) proposes principles of connectivism as follows:

- Learning and knowledge rest in diversity of opinions.
- Learning is a process of connecting specialized nodes or information sources.
- Learning may reside in non-human appliances.
- Capacity to know more is more critical than what is currently known.
- Nurturing and maintaining connections is needed to facilitate continual learning.
- Ability to see connections between fields, ideas, and concepts is a core skill.
- Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities.
- Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through

> the lens of a shifting reality. While there is a right answer now, it may be wrong tomorrow due to alterations in the information climate affecting the decision. (paras. 49-56).

One thing that is salient in connectivism is establishing, nurturing and maintaining connections with human and nonhuman entities to access current and needed information. As a complementary argument to connectivism, rhizomatic learning defends the view of establishing connections with a specific focus on how learning needs are defined and suggests that although people may be effective at identifying needs that are simple or complicated, they can't effectively define their complex learning needs.

Rhizomatic learning

Originally inspired by the magnum opus work of Deleuze and Guattari (1987), 'A Thousand Plateaus', rhizomatic learning refers to nonlinear, unstructured learning (Cormier, 2015), which is further defined as an evolving path (Bissola, Imperatori & Biffi, 2017; Phillips, 2017) and a collective process as it, "ceaselessly establishes connections" (Deleuze & Guattari, 1987, p. 7). According to Bozkurt et al. (2016), "Rhizomatic thinking and, by extension, rhizomatic learning is a philosophy, a heutagogical approach, a critical approach, and a combination of all these; yet most importantly it is a form of inquiry for those that excel in learning from informal experiences." (p. 7). Accordingly, rhizomatic learning emphasises the interconnectedness of ideas with many entry points (Sharples et al., 2012), and further suggests that knowledge is contextual and needs to be discovered by learners (Cormier, 2008). Criticizing traditional approaches, it suggests that learning is not predetermined, but is rather an emerging process (Bissola et al., 2017; Cronje, 2018), where perceived learning matters (Lian, 2004), and thus the learning path should be defined by learners themselves (Lian, 2011).

Although there are some opposing ideas (Mackness & Bell, 2015),

according to rhizomatic learning, learners' experiences show that the community can be curriculum for learning (Bali et al., 2016). Cormier (2008) further explains that community is the curriculum, because “curriculum is not driven by predefined inputs from experts; it is constructed and negotiated in real time by the contributions of those engaged in the learning process. This community acts as the curriculum, spontaneously shaping, constructing, and reconstructing itself and the subject of its learning in the same way that the rhizome responds to changing environmental conditions.” (para. 12). In brief, rhizomatic learning asserts that in a complex, connected environment, people can and do learn from other people in ways that they cannot predict and could and/or would not seek out on their own. The simple participation in a community of knowing will lead to new connections that are both necessary in order to be accepted in that community and that are not achievable in other, more linear fashions.

Learning theories for networked learning defend the view that online networked spaces offer multiple entry points (Mbati, 2017), and learners in these spaces should take the lead for their own lifelong learning journey (Ossiannilsson, 2017) in order to learn from their experiences. Connectivity-oriented pedagogies such as connectivism and rhizomatic learning suggest that we give learners responsibility and agency in online learning ecologies so they have an opportunity for tailoring learning experiences to their learning needs.

Heutagogy (self-determined learning)

Like connectivism and rhizomatic learning, heutagogy (Hase & Kenyon, 2000) is a networked theory of learning that promotes learner agency, while further expanding upon other aspects of learning and the role of the learner as an agent of learning. The theory builds upon established learner-centred learning theories such as constructivism, humanism, reflection and transformational learning (Bandura, 1977; Maslow, 1943; Mezirow & Associates, 1990; Rogers, 1961; Schön, 1983) and is based in the following core principles

(Blaschke & Hase, 2019):

- **Learner agency**: Central to heutagogy is the concept of the learner as the primary agent of his or her learning, with the learner making decisions about learning, from what will be learned and how, to whether learning has been achieved and to what degree (e.g., self-assessment).
- **Self-efficacy and capability**: Also central to the theory are the principles of 1) self-efficacy, which is the learner's belief in his or her own abilities, and 2) capability, which is the ability of the learner to demonstrate an acquired competency or skill in new and unique environments; the resultant experience of both has the potential to create transformational learning.
- **Metacognition and reflection**: Reflecting upon and critically thinking about what has been learned and the process of learning, in the form of double-loop learning (metacognition), is another principle of heutagogy.
- **Non-linear learning**: The learning path is directed by the learner, and is not pre-defined or sequential, as the learner is responsible for identifying what will be learned and how. As a result, this path can often be chaotic and divergent - much like learning in connectivist and rhizomatic learning environments.

The relevance of heutagogy to networked and online and distance learning has been described in the literature, and like connectivism and rhizomatic learning has been found to be applicable to MOOC environments (Agonacs & Matos, 2019; Anderson, 2010; Blaschke, 2013). Heutagogy is also highly relevant to learning ecologies due to it promotes learner agency and autonomy and allows the learner to define his or her learning goals and how these will be assessed, as well as supports the learning experience in both formal and informal learning environments (Siemens, 2007).

Conclusion

This chapter suggests that an ecological perspective in learning can be helpful in order to better understand how meaningful learning occurs across informal and nonformal and formal learning spaces. Considering that knowledge is a universal entity that is constructed by individuals and belongs to everyone who demands it and wherever they need it, networked learning and learner-centred theories support the view that learning should be designed in such a way as to increase learner agency, drawing on and nurturing learners' intrinsic motivation to learn. Learner agency through heutagogy and online learning ecologies provides sustainable learning experiences because, as highlighted by connectivism and rhizomatic learning, autonomy is given to the learner. Rather than being constricted by predefined goals or objectives, learning is defined by learners' self needs, and it is meaningful as long as it satisfies learners' needs and engages them in determining what will be learned and how learning will be undertaken. Such an approach, already characteristic of informal learning, can work to establish learner agency as a standard for learning, develop learner self-efficacy and capability as a pathway toward active, meaningful, and satisfying learning, and promote critical thinking and reflection when applied within formal learning environments.

Learner agency can be further associated with lifelong, lifewide and lifedeep learning where learners pursue, discover and explore knowledge in a multidimensional space rather than a flat, linear one. Educators, as well as learning designers, should be aware that learning is a transitional space: learning happens anywhere, anytime, and it is the learners' needs that matter, not learning defined and bound by so-called authorities. By promoting learner agency, we loosen the grip of authoritative constructs on the learning process, thus empowering learners to move fluidly across formal and informal learning spaces. Based on these notions, this chapter suggests that there is a need to better understand perceived learning and describes

how networked theories that promote learner agency can be used to ensure and enable lifelong, lifewide and lifedeep learning.

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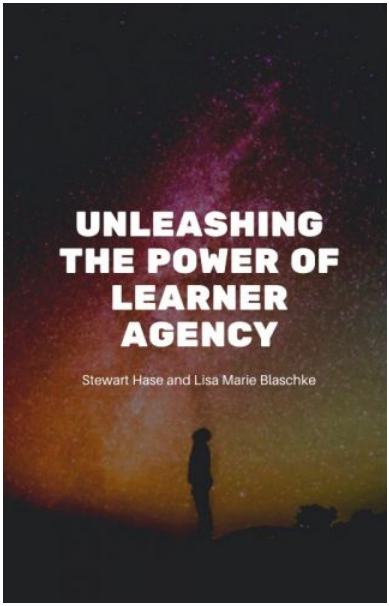

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