



VIEWPOINT ARTICLE

Learning 2.0 Theoretical Framework for Higher Education in Low Resource States

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Learning 2.0 is a milestone in educational technology that has presented a global learning opportunity for a wider education access and reaching the underserved communities. This has caused a resurgence of interests for the transformation of higher education in low resource countries. However, the poor technological environment and deteriorating condition of the higher education sector in many low resource countries is blurring this opportunity and weakening the resurgence both in theory and practice. This article proposes a learning theoretical framework that could be used to widen participation and equity to higher education in low resource countries by harnessing the power of Learning 2.0. In so doing higher education can be rethought and transformed despite existing challenges and poor technological environment.

Keywords: learning 2.0, higher education, educational technology, learning economy, low resource states, and theoretical framework

The advent of Learning 2.0 has presented a learning opportunity both for wealthy and low resource countries. The term 'Learning 2.0' is a host name for recent digital applications such as mobile phone technologies, wikis, folksonomies, virtual societies, blogging, multiplayer online gaming and social networking that share a common characteristic of supporting virtual and physical interaction amongst and within groups. This opportunity lies in its power to harness the creativity and innovation of its users through co-creation, collaboration and communication processes across institutional boundaries – a pedagogical strength more suited for higher education. While educators, researchers and commentators have pointed out that technologically low resource countries can benefit from this opportunity to increase education access and widen the participation of excluded groups by traditional institutional barriers such as distance in the new global economy, they have been quick to say this may take some time for one main reason. The application of Learning 2.0 requires clear pedagogical models for the design of curriculum which typically involves a pedagogical shift toward information and technology empowered social and collaborative forms of learning. Existing Learning 2.0 models require sound technological infrastructure and robust research. Many low resource countries currently lack both and this is worsened by a myriad other challenges crippling the higher education sector such as poor quality of curriculum and pedagogy, limited capacity of knowledge generation and adaptation, policy and management issues, problems of financial support and diversifying funding, access and equity issues, shortage of quality staff and problems of brain drain (see Teferra & Altbach, 2004, Yizengaw, 2008 and Lebeau, 2008 for a full discussion of these challenges). It is thus suggested that without sorting out these first-order challenges, Learning 2.0 cannot work in low resource

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countries. This conclusion therefore means amid the growing Learning 2.0 opportunities, the poor may remain poor learning systems, remain excluded and disadvantaged by their location.

While agreeing that these challenges need to be addressed, this paper argues that rather than seeing the application of Learning 2.0 as an aftermath of the solution to these challenges, it is, in fact, because of these problems that Learning 2.0 may be uniquely suited for adoption in low resource countries. This is because these drawbacks do not need to be addressed first and in isolation but used as a resource to develop contextually relevant frameworks that uniquely addresses these challenges using the education paradigm shift Learning 2.0 has brought about. The paradigm is not solely about the online experiences but impacts more how we ought to rethink our offline education theory and practice. It is therefore the aim of this paper to propose a learning framework based on principles derived from collaboration through Web 2.0 designs, or Learning 2.0, which can be applied in technologically low resource environments to transform education for widening participation, increase access, and improve quality and outcomes. The framework focuses on and is built from archetypes that were drawn using a qualitative inquiry – documental analysis – from a backdrop of literature and of particular narratives of experience in the reviewed field and research texts.

The documental analysis reviewed and synthesised research studies, published between 2000-2014, using such key words as Web 2.0 education innovations, computer-supported collaborative learning, collective intelligence and e-learning 2.0, digital infrastructures and technologies for lifelong learning. Electronic databases were utilized including Google scholar, Second Life ERIC (EBSCOhost), Journal of Computer Assisted Learning (EBSCOhost-PDC), Academic Search Premier (ASP) and SpringerLink. The time frame of the search entry, 2000 to 2014, was selected because it is within this period that the term Web 2.0 emerged and started being applied in education. The searched documents were presented in the form of full text and were sorted out using a document analysis worksheet. First, repeated titles, authors, journals and uncompleted articles were screened out. And articles not written in English as well as those which repeatedly appeared in different years or different journals were deleted. Second, an interpretive analysis, whose aim was to capture hidden meaning and ambiguity, how messages were encoded, latent or hidden, was employed to answer specific research questions: (1) What are the concepts that underlie existing Learning 2.0 models? and (2) What prototypes can be derived from underlying concepts of Learning 2.0 that can be applied theoretically and practically in technologically poor contexts?

The paper begins by locating a model view of Learning 2.0 within the broader educational context that the current literature has established itself. This includes an exploration of the interaction of macro and micro level issues of Learning 2.0 in education settings focusing on the learning implications for both technologically poor and savvy contexts. This is a shift in the current scholarly work that has focused on Learning 2.0 implications in technologically advanced environments alone thereby presenting Learning 2.0 as a sole technological occurrence and innovation. Such a presentation of Learning 2.0 fails to liberate itself from the old traditions of industrial classroom education. The education in mind still remains on what and how something should be transferred from the teacher to the learner where the web replaces the book and black boards, the computer replaces the classroom walls and the internet replaces the teacher (Dohn (2009). There is still the notion that education is a medium through which to load ‘something’, in the heads of learners through reinforcement, perhaps mediated through cognitive confrontation and argumentation

(Weinberger, Ertl, Fischer, & Mandl, 2005; Dillenbourg & Tchounikine 2007), that is fixed, generalizable and transferrable to different contexts as well as acquired and possessed by individual students.

The paper will then proceed to present and discuss a Learning 2.0 theoretical framework that can be used to remove constraints to the adaptation of, and harnessing learning opportunities presented by, Learning 2.0 in the current context of education in technologically poor environments to transform higher education, increased access and quality learning outcomes.

Learning 2.0: A New Education Paradigm

Learning 2.0 is an education technological term involving the application to learning of second generation technologies called Web 2.0. It has two components: education (learning) and technology (Web 2.0). O'Reilly (2005) argues that the concept of Web 2.0 is an entire different way to understanding, approaching, and operating on the web. As opposed to Web 1.0 where there is an inclination to one way communication, that is, users of the web only serve as consumers of information, the 2.0 concept has users as both consumers and creators of information with multiple ways of communication and collaboration.

Web 2.0 has empowered learning through digital multimedia and networked technologies that are both immobile and limited technologies on one hand and mobile and ubiquitous ones on the other (Masie, 2003; KERIS, 2005; Redecker, 2009). Immobile and limited technologies can include technologies like desktop computers and cable internet while mobile and ubiquitous technology include cellular phones, handheld computers and wireless networks. The most transformative power of Web 2.0 in education lie in its three hallmark characteristics: mobility, connectedness and ubiquity (Kynäslähti, 2003; Redecker, 2009).

Mobility enables learners to take their learning with them beyond the physical walls and boundaries of learning institutions by use of mobile technologies such as cellular phones, laptop computers and wireless networks. Some scholars have called learners who operate in this kind of environment 'mobile learners' (Dunlap & Lowenthal, 2011). This is because they can learn from any place while doing other things and the learning materials they use are adaptive, unfixed and allow for interaction and multitasking.

Connectedness allows for the learners and mobile technological tools to spontaneously communicate with one another and collaborate in learning activities almost anywhere at any time with course content and related data, with classmates and both subject and field experts (Alavi & Dufner, 2005). During this communication, both users and the tools adapt themselves with, and adjust, to the environment based on the collected data (Kynäslähti, 2003; Peng, Chou & Tsai, 2009). These interactions can either be face to face or online or a blend of the two. The interactions and their dynamics are captured, interpreted and given meaning, tracked, and even predicted to an extent that, for example, they create bionetworks of systems and users based on the thematic linkages of collected data (European Commission, 2009). This is potentially a new physical intelligence integrating the physical and virtual social and technical behaviour of humans and technology into one new experienced fabric of society (European Commission, 2009; Mouza & Lavigne, 2013).

Ubiquity is the characteristic that powers the preceding traits to make Web 2.0 incomparable with whatever that the world has ever experienced before. Ubiquity is the state of being everywhere at the same time (Peng et al., 2009). Thus, ubiquity allows for massive connected and embedded systems and devices to be accessible to, and work together for and with, multiple users communicating with each other synchronously and asynchronously across geographical, institutional and cultural boundaries (Kearsley, 2000; Hummel & Hlavacs, 2003; O'Reilly, 2005; Mouza & Lavigne, 2013).

A number of studies on Learning 2.0 have suggested characteristics related to the design, development and application of Web 2.0 tools and the learning theories which support ubiquitous learning and knowledge construction (Seppala & Alamaki, 2003; Redecker, 2009; Downes, 2010; Brodahl, Hadjerrouit & Hansen, 2011). All these reviews have one argument in common: that the application of Web 2.0 technologies in education is undoing the industrial models of education in specific key areas. Table 1 configures these key characteristic areas into seven categories. The table shows the shifts in the characteristic areas using three models of education contrasted across three distinct economic imperatives, that is, the agrarian, industrial and learning economy.

The learning economy in Table 1 outlines Learning 2.0 paradigm. The agrarian and industrial economies mark the industrial model of education that shaped education according to the intellectual culture of enlightenment and economic essentials of industrialization (Freire, 1970; Dohn, 2009) that separated school from society. School was placed as an authority of knowledge and prepared learners for industrial and farm labor. In return school segmented knowledge and packaged it into a fixed set of expert skills. In doing so, these models of education defined learning as a process of acquiring 'something' that is fixed, generalizable and transferrable to different contexts (Dohn, 2009).

Table 1: Evolution of Learning Models of Education

Characteristic	Agrarian Economy	Industrial Economy	Learning Economy
<i>Primary role of school</i>	Source of knowledge.	Guardian source and guide of knowledge.	Learning facilitator and hub of collective intelligence and collaborative knowledge creation.
<i>Curriculum</i>	Copyrighted materials and fixed within learning institutional apparatus.	Copyrighted materials and fixed across and within learning institutional apparatus.	Free community and collaboratively generated materials used across all institutional, disciplinary, and national boundaries, supplemented by copyrighted materials.
<i>Focus and Location of Learning</i>	Survival, rigidly scheduled and fragmented mastery of curriculum content and restitution applied in classroom environments.	Mastery of curriculum content for restitution and acquisition of survival skills for employment applied in lecture halls and classroom environments and occasional industrial attachments or internships.	Lifelong learning, flexible evaluation of curriculum content that allows for adaptation, creativity and innovation in authentic networked environments beyond boundaries of disciplines, schools and nations.
<i>Technology tools</i>	Fixed institutional devices.	Fixed institutional and personal devices.	Networked, shared and flexible personal and institutional devices
<i>Affiliation</i>	Fixed one-to-one affiliation between learners and institutions and single accreditation.	Fixed affiliation with exchange among institutions and multiple accreditation across international borders.	Flexible to loose institutional affiliations and accreditation with trans-relations blurring institutional and international borders.
<i>Interaction and state of learners</i>	Question and answer, passive absorptive without ownership of learning process within.	Labs, question and answer, moderately active with an emerging sense of ownership of individual spaces for competition.	Active, experiential networked inquiry with a deeper sense of ownership driven towards collaboration and collective knowledge creation and application.
<i>Results</i>	Memorised fixed facts of knowledge and skills.	Memorised fixed facts of knowledge and skills.	Adaptation and Lifelong learning

From Table 1, we can argue that Learning 2.0 model of education presents a definition of learning quite distinct from previous modes of economy: from acquisition of fixed facts and knowledge to creative collaboration; from school to social networks that provide a creative learning environment that does not see knowledge generation as a one way enterprise from teachers to learners. In this new mode, knowledge generation is seen as a collective value creation process that uses both learners and experts and taps into the creative potential of communities locally and globally to generate, organize and evaluate dynamic – due to everyday adaptations – curriculum content. Thus, the goal of education under Learning 2.0 is not memorized fixed facts of knowledge and skills. The goal is adaptation and lifelong learning which is the imperative of the global and knowledge based economy we are in.

This view of Learning 2.0, in the case of low resource countries, shifts the question of Learning 2.0 implications for learning to evolution in educational thought and not the technological gap they need to feel in order to ‘catch up’ and be connected to global

knowledge systems of industrial countries. This study therefore remedies this weakness prevalent in literature which has great potential to mislead future research and applications of Learning 2.0. The study mitigates this weakness by proposing a framework with established evidence that shows that the condition of low resources countries should not be seen as a limitation but an element that makes them uniquely suited for application of new learning approaches. This requires new learning frameworks envisaged within the contexts of the respective countries. It will take some time though to fully envisage such frameworks in practice. But building from the existing theories and designs of Learning 2.0 discussed above, in the following sections, this paper shows that such an endeavour is not farfetched after all.

A Learning 2.0 Theoretical Framework for Higher Education in Low Resource Countries

From this Learning 2.0 education paradigm, two overriding themes will be proposed. These will be called archetypes because they serve as a model for replication and argue for Learning 2.0 to be adapted in low resource countries. These archetypes are society and knowledge. The two archetypes form the bedrock for all seven key change categorisations in Table 1. They present an alternative framework that does not present Learning 2.0 as a sole technological occurrence of and on the web. To continue to understand and try to apply Learning 2.0 in terms of web applications creates potential of getting misled into focusing education on what and how something should be transferred from the teacher to the learner where the web replaces the book and black boards, the computer replaces the classroom walls and the internet replaces the teacher. In view of this, Dohn (2009) argued that a significant number of approaches and literature within the field of computer assisted learning seem to only answer to the questions of ‘what’ and ‘how’ ranging from:

behaviouristic ‘transfer’ of propositional behaviour from teacher or computer to student through reinforcement, over Piagetian- and Luhmann-inspired individual construction of mental representations and schematas or of inner complexity of the cognitive system perhaps mediated through cognitive confrontation and argumentation with other learners to Vygotskian-inspired internalization/appropriation socially mediated knowledge (Dohn, 2009: 350).

While these approaches all seem not to concern themselves with the learner’s prior knowledge, they have significant differences in terms of the ‘objectivistic ontology’ of learning outcomes (Dohn, 2009). This is the hallmark weakness prevalent in the recurrent Learning 2.0 literature reviewed in this paper and has great potential to mislead future research and applications of Learning 2.0 particularly in low resource environments. Using the two archetypes, society and knowledge, an alternative Learning 2.0 theoretical framework is presented in sections that follow as an evolution in educational thought and revolution in educational practice.

Society Archetype

The society archetype builds on Dewey’s progressivism concept of education that holds that learning should not be relocated from society to places called schools and classroom walls (Dewey, 1938). Instead, society is and should be the school and not an entity that is an object of study and experimentations divorced from the experimenter, that is, the school and learner, as presented in industrial mode of learning (Pinnegar & Daynes, 2007). The school is society argument is Learning 2.0 society archetype is basically underlined by the notion that

school should be the entire society in a given community in which learners live. Education systems ought to be an integral part of natural and cultural contexts shaped by histories, time and social systems in which human interactions are embedded (Clandinin & Connelly, 2000; Pinnegar & Daynes, 2007). They should be integrated community learning systems that provide learning experiences in real lived environments of the learner. This is an ongoing evolution in educational thought. The primary application of this thought is not a question of technological advancement and the internet. It is a question of reconfiguring higher education institutions in low resource countries to integrate their learning systems with realities and needs of local communities, industries and institutions.

While advanced technology enhances this reconfiguration much deeper, basic technologies such as mobile telephoning which is already transforming many low resource countries can still do the job. What is more important is for professors and their respective departments to reorganize their courses to tap into local learning networks and generate dynamic content that is locally relevant. In fact, such movements advocating for higher education institutions in low resource countries to adopt Massive Open Online Course (MOOCs) learning materials regardless of the argument need to be checked for one major reason. The current higher education systems, as already discussed above, are unresponsive to local needs and creativity. Therefore, the online learning materials are being adapted into school environments that are unresponsive to community contexts. The externally developed learning materials have no capacity to create the needed local interface. The local needs and creativity remain underutilized because the web is still yet to document and capture the reality and voices of the poor in a manner that education is currently conceptualized can recognize. Thus, it is important that we avoid reproducing on, and embellishing with, technological platforms and gadgets the already dysfunctional schooling. This can be done by focusing on how, based on their contexts, low resource countries can adapt and develop their own content and technology that can relocate learning from walled classrooms to open learning spaces. This means linking classroom learning with community learning systems.

Learning 2.0 clarifies this concept with its connectedness character that shows that learning, much as it takes place within individual cognitive faculties of persons, best happens in a connected epistemological community where the learning of its members is the collective production and integration of knowledge. The more learners collaborate and work as a community, the more the communities of learning form, grow, progress and become sustainable as frontiers of knowledge expand. Rather than seeing higher education institutions as a community of learning within communities, the Learning 2.0 society archetype shows that these institutions should be integrated with communities to form a collective community learning network that secures increased collective participation. This archetype can thus be summarized as the maximization of scarce resources by transforming higher education institutions into a community integrated learning system. This is a learning system that is formed out of organic community networks and resources in a manner that is environmentally sustainable, economically viable, politically supported and socially responsible.

Knowledge Archetype

The knowledge archetype takes us to the basic question of how was knowledge that brought about Learning 2.0 technologies built and integrated to produce them. Further, in locating best Learning 2.0 frameworks in low resource countries, this archetype requires us to answer the question of what is knowledge, how it is built and integrated. Learning 2.0

technologies are knowledge products and the collaboration they facilitate in the discourse and practices of individuals and institutions is aimed at knowledge production and integration.

The existing higher education assumption in low resource countries (or all countries) is that knowledge is what professors and business experts impart and/or is contained in the books (based on the industrial mode of education). This professorial, expert and bookish knowledge has to be transferred to the learners. The learners memorize and master it and then graduate to apply the acquired knowledge in the real world. Thus, learning is viewed as facilitating a hierarchical process of broadcasting information from the top few to the bottom majority (Sife, Lwoga & Sanga, 2007).

While we need information to be availed and broadcasted, like the Massive Online Open Courses (MOOC) (Rajesh, 2003), the broadcaster and the audience need to interact and generate what they broadcast, the content, together. Theories that are grounding Learning 2.0 pedagogical approaches such as the social network¹, social capital² and complexity³ theories show that knowledge is not necessarily hierarchical but fluid such that the concern is not just access to packaged information but access to other people (Attewell & Savill-Smith, 2005). In fact, instead of packaging information, information has to be unbundled so that learners select the best parts to create something new in their own context. Accordingly, the focus of emphasis in education moves from subject content to learning networks, human interactions, in real context wherein the subject content is located and becomes community generated as argued under the society archetype (Selwyn, 2008). The process of developing content and application is thus open in terms of visibility and participation. Learners do not need to first prove that they have amassed sufficient explicit knowledge before they can become an active integral part of the professional practitioners in their field. This means that the focus is no longer what is learned but how it is learned; and how it is learned is a collective process that scaffolds both individual and collective efforts in and by it in real time.

The knowledge archetype shows two critical points: that learning involves knowledge building and integration and, this process takes place in a collective and networked system to which everyone regardless of position in life, is an essential part. This can occur within the current context of higher education in low resource countries without demanding technological sophistry but actually result into technological innovations. How this can happen is building from technologies that already exist such as mobile telephoning and Facebook (Rangaswamy, Challagulla, Young & Cutrell, 2013) which have proved to have transformative potential and viral effects that link resources to produce resources that support student mobility, connection, communication and safety for lifelong learning. This idea,

1 The Social Network Theory studies production and sharing of information in an interpersonal communication structure, the relationships around a person, group or community that affects beliefs or behaviors – the causal pressures inherent in a social structure. Reality is thus primarily conceived and investigated from the view of the properties of relations between and within units instead of the properties of these units themselves (see Wasserman & Faust, 1994; Haythornthwaite, 1996; Scott, 2000; Monge & Contractor, 2003).

2 Social Capital theory is the study of norms and networks that enable collective action and facilitate mutual benefits. It encompasses institutions, relationships, and customs that shape the quality and quantity of a society's social interactions, trust, solidarity, cohesion, cooperation, inclusion, information and communication ((Woolock, 1988; World Bank 2011; Burt, 2000; Lin, 2001; Hauberer, 2010).

3 Complexity theory also known as complex adaptive theory is the study of emergent order in what are otherwise very disorderly systems that explain the phenomenon of life. These systems are complex, self-organizing, adaptive, dynamic and co-evolving - they both change and are changed by their environment – co-evolve (Miller & Scott, 2009; McElroy, 2003; Johnson, 2007).

however, needs to be pilot tested.

Learning within the Archetypes and Implications for Higher Education

The knowledge and society archetypes demonstrate how higher education can be transformed into integrated community resource that adapts to community needs and usage. This transformation occurs and impacts higher education in terms of capital, value, cost, assessment and knowledge sharing.

The capital transformation is a shift of focus from physical capital to social capital. Learning stops being about having permanent closed access to standardized resources such as university campus often disconnected from local networks of individual persons, households, businesses and organizations. The focus becomes open access to dynamic resources incorporated in the local networks of individual people, households, businesses and organizations. This shift solves the problem of physical infrastructure and enrolment capacities discussed earlier as part of the obstacles to Learning 2.0 and hence wider student participation in low resource countries. Connecting to community facilities generates unlimited learning spaces that expand organically as opposed to fixed classroom buildings and furniture. Also, the community integration addresses the challenge of irrelevant curriculum because learning becomes placed and content generated from community networks of the real lived experiences.

The value transformation is about what participants, for which the learners, in the learning system will be valued. Instead of placing value on the tuition fees they have to pay, the value is placed on learners as persons who are knowledge co-creators and innovators that society as whole needs for sustainability and competitiveness. The focus of higher education moves from test scores and graduate credentials to processes of learning and the resultant innovation. Higher education starts to trade in knowledge and innovation which has inherent value for both local and global societies. This value can be captured as a replacement for tuition fees. When this happens, the problem of unaffordable tuition and economic inequalities in higher education gets resolved. The collective knowledge creating environment naturally creates value. In a globalizing world where there are many complex problems that link local and global contexts (global pollution, disease, communication, migration, etc.) there is value in generating such knowledge value. It is not difficult to link this knowledge to a broader world of financial transactions and turn it into additional resources for the communities and learners.

The change in terms of costs is such that overhead costs are reduced for the reason that higher education institutions will no longer need to invest in, own and substantially isolate themselves through physical infrastructure. They start to operate through and with community networks of people, businesses, and institutions who have facilities and spaces for purposes of facilitating lifelong learning for knowledge building, assimilation and innovation. Learners thus become more mobile and connected rather than stationed on a campus relatively isolated from the non-campus world which surrounds them.

The assessment transformation comes about because of this collaboration that transforms higher education into community integrated learning system both at individual and institutional levels. At individual level, given that learners begin to be treated as knowledge co-creators, the practice of assessment changes by removing assessment from the

intimidating and shuttering realms of assessors to learning domains of learners (Dunlap, 2011). Current assessment procedures are generally designed to look through the lenses of what currently exists in order to assess what might be in the future. In this way, they tend to be reproductive in nature, that is, they ensure and verify that learners see the world today as it was seen yesterday. Mitra (2013) sees this tendency as restricting new forms of knowledge in that evaluation deals with the 'anticipated' and 'fragmented knowledge' (what was taught). Also, evaluation processes are forced to fit into time constrained manageable processes. Boud (2000) saw this evaluation process as discarding the same learning that it seeks to measure.

Given that learners become knowledge co-creators, it is necessary that assessment starts being an act performed by the learners based on their lived learning experiences. They need to take responsibility of their own learning. This requires that they learn how to learn from various sources and evaluate themselves. This, among other things, includes the capability to plan, track and assess one's own learning within, with and across networks. Learners have to get trend feedback from self and self-solicited feedback from fellow learners, field experts and other actors in the learning ecosystem. The goal is to build capabilities and competences to meet future learning needs. This can be called network-review-assessment and lifelong learning evaluation that is an integral part of learning and equips learners for a lifelong learning society where learning is work and work is learning (Barnett, 1999).

Lastly, the knowledge sharing transformation involves the institutionalization at a global scale of open source and crowd sourcing systems. While some institutions such as the World Bank have given open access to the data bases, leading academic data bases are still closed and exchange of academic materials, publications and other scientific information in the area of library services still requires universities to spend huge sums of money in form of subscriptions (Kantini, 2013). Harvard University observes that 'Many large journal publishers have made the scholarly communication environment fiscally unsustainable and academically restrictive' (Harvard University Faculty Advisory Council, 2012). This economic model is sustained when universities are seen largely as consumers (buyers) of knowledge (academic databases, for example). The ability of wealth institutions to purchase access to such stored 'knowledge', diminishes access to the rest of the world (who cannot afford the resultant price of access). But this view of university knowledge is misleading. Universities are actually the generators of knowledge. Collaboration at institutional level in knowledge generation with universities in low resource countries can be enhanced by changing this economic model. The money-based subscription could become open access. The result would be more knowledge creation, refinement of ideas and innovation (Sawyer, 2006).

Conclusion

Learning 2.0 technologies have transformed both the experiences and expectations of technology on one hand, and how the interactions with computers, peers and the learning environments on the other hand. This has significant implications for learning ranging from wide space of pedagogical designs to expansion of peer connections and work collaboration capacities among learners, facilitators and institutions, from aggregation and sharing of contributions within content communities to new ways of engaging local and global communities through technology mediated learning environments. These implications have presented an opportunity for widening global participation by increasing student access and reaching the underserved communities through open online Learning 2.0 environments. Yet,

because of poor technological infrastructure usually attendant in such low resource environments, this opportunity has often been deferred.

This paper suggests that this opportunity need not be deferred because Learning 2.0 is not fundamentally defined by technology. It has a philosophical and epistemological impact which, once captured and infused in education theory and practice in low resources countries, can foster educational innovation within local communities. It can facilitate a learning transformation, using some technologies that are culturally and contextually viable. This shift helps to establish a dramatic change in the vocabulary of Learning 2.0 in light of higher education in low resource countries. Learning 2.0 is a growing process rather than static and duplication. It is transformative rather than structured. It is contextual rather than generalized, networked rather than isolated, and collective rather than individual. Collecting these changes into two archetypes helps organize our thoughts – society and knowledge. Under such archetypes, there are practical implications for transforming higher education in low resource countries regardless of the resource conditions.

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