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E-learning and the Discontents of Digital Connectivism in Educational Projects: Rethinking Behaviourist Expectations in 'Coming of Age' Stories

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Abstract
This paper departs from the new criticism framing of e-learning as online connectivism to relocate the 'literary' discourse that challenges it with close reference to behaviourist educational expectations in 'coming of age' writings. It arrives at the findings that, contrary to orthodox formalist opinion, e-learning is an open-ended discourse in the critical realm of the digital humanities. Therefore, the e-learning platform of the future should prioritize not only formalist, behaviorist, connectivist paradigms but also skills of cognitivism and constructivism, and with new regard to the design and practice of online educational materials. In the 'literary' and critical consultancy model of e-learning being suggested for the future, there is a shift from technocratic determinism to cognitivist and constructivist e-learning, in which learners are given the opportunity to reconstruct their own meanings from the information presented during online sessions. The implication of this discursive emphasis on digital e-learning is that online learning materials should be re-designed in segments that are suitable for different learners and contexts. Online learning should be increasingly diversified as a technological response to various learning cultures, styles, and motivations. The infrastructure for online learning should include planning and organizational issues, human resources, and accommodation of changing student needs, curricula and technologies like blogs and wikis.
This critical consultancy model also integrates modes of teaching presentation, learning performance, the presentation medium, cultural prerequisites, that emphasize the participation of learners in a value chain, efficient online learning experiences, and contexts of quality. In addition, this critical consultancy model must encourage e-learners to explore their sensory store, interact with content and with other learners and share cognition and social networks.

Keywords:
E-learning, new critical connectivism, coming of age stories, behaviourism, constructivism and cognitivism, political economy of educational websites, discontents

1.0 Introduction

Digital connectivism is a new e-learning framework (Siemens, 2005; Downes, 2006) [1] that attests to people learning in a digitally networked world, a paradigm of the digital age (Loureiro and Bettencourt 2010) [2] by which learning takes place through a process of acquiring knowledge in electronic architectures. It theorizes learning as a continuously "network-forming process" (Siemens 2006). [3] In connectivism, the emphasis is on the learning taking place in the 'outside' of the learner in a new critical 'location' called the database of an organization with connections of specialized information sets. In this new criticism paradigm, connections are more critical than the degree or state of knowledge of the learner (Siemens 2006). [3] As a digital business that is beneficial to students, businesses, organizations, ordinary people, people with disabilities, workers and the like, e-learning helps employees in organizations to sustain a professional edge. The e-learning trend is now growing in popularity and may soon become the chief channel through which learners attend school, students obtain training in job skills and positions, and workers in all stages of their careers recycle their skills. So, e-learning is current and relevant in our fast-paced business world of today characterised by the political economy of capitalism. Digital learning enables workers, professionals and ordinary people with prior training to upskill: they can take their existing skills to new levels by upgrading them so that they perform tasks better in their current roles and improve their potential for promotions into higher positions. Ordinary people can just stay up-to-date on technological trends so that their services can be more competitive in the marketplace. Upskilling is very necessary because technology is transforming itself at so fast

a rate and more folks are inclined to pivot their mid-careers in selective directions or variegate their skills in the course of their career lives. People are becoming increasingly smart, as they are faced with the uncertainties of the world economy; so, e-learning is a platform that enables them to merge unusual techniques and skills in order to differentiate their services from the routines of competition.

Online learning offers opportunities for learners to complete their training programmes within the demands of *their own time space* and in conformity with their own *personal* schedules. These objectives are realized with the aid of written content, recorded lessons, collaborative digital learning software and webinars that facilitate the process of connectivity and access to everything they desire. There are caretakers who have busy schedules, and there are employees on full time but who do not have the time to return to school or to enforce a full-time university schedule. E-learning offers opportunities for part-time courses that can be completed with school assignments, group work and tutorials done in the evenings after the working hours of the day, on weekends, and during any spare time of their own. Even persons with health problems who cannot integrate themselves into the classical time and physical schedules of schools and universities can take advantage of digital technologies to access instructional material that regular students following traditional course programmes cannot take. Physically disabled and psychologically diminished persons cannot conveniently follow up with course programmes in the classical classroom setting. Even with the legislation of buildings to make them accessible, many disabled persons cannot still participate because their life situation prevents them from attending to traditional classroom schedules and training at specific times and places. Nursing mothers and labourers may not attend lectures in the early hours of a day, but may afford some hours at the end of the day to task themselves with on-demand training materials. In this way, ideologies like equal access to education, may make sense. Recorded lectures can be offered, followed by programmes in discussion forums such as posting of assignments, discussions about the lectures and material of learners posted, time for soliciting questions and so forth.

The outdating of textbooks, alienation of parents who are unable to shoulder increasing costs of textbooks, and the obsolescence of information contained in school books, etc, are some of the problems faced in the classical educational system which are resolved in the e-learning one. E-learning materials can be quickly updated in real time without the need for reprints of books that are expensive and unfriendly to the environment. Digital information can simply be added to meet the challenge of freshness and currency. This process can be very efficient and cost effective because it does not require huge infrastructure, or expensive equipment, nor does it necessitate that learners leave their homes or make any exorbitant purchases. Learners can then save money, have more time to themselves and can then use these resources to do other things that are beneficial for themselves and society. These benefits can encourage potential learners from lower income sectors to come on board because they cannot handle higher costs in traditional school programmes, and can access in-person online lessons that can drastically boost the value of their lives.

The current political economy in Africa, for example, makes use of the e-learning platform to train employees in new ideas of products, services, brands, software applications, innovations and so on. Trainers and employees seeking new skills for an employment can go online to engage, learn and connect with colleagues and other learners. There is no need for online training to bring together employees living in large geographical areas to a single centralized place. Corporate trainers do not need to travel to different places to meet learners. Online learners can simply get in contact with training materials, proceed to watch recorded or live lectures, get their evaluations, network with their teachers as well as with other learners, and all of these activities can be performed from the comfort of their homes and offices with minimal costs. Businesses do not have to pay huge costs to train their employees in terms of travelling to places where they live, costs of lodging, hiring office space, obtaining equipment for these activities and so forth. In these ways, online tuition is minimized, in terms of overheads of programs at a school or an office, learners gain from the quality of training offered, and the interactivity and robustness of multimedia technologies utilized, their accessibility, flexibility, and efficiency in training methods irrespective of their industry or age. E-education can thus provide a platform for the legitimacy of training, formal certification, and guarantees of professional competition.

Despite these technological benefits to learners, e-learning is confronted by multiple 'discursive' challenges emerging from its political economy environment. This is so because e-learning is not an essentialism in itself functioning in a new critical vacuum; it is being re-constructed by its own political economy environment; so, it is very susceptible to the crisis of its own power and is in need of new remedial processes. The political economy is one of a fast-paced, diversified and sophisticated world, and the challenge is how e-learning can catch up with environmental changes. With information explosion, learning can no longer remain as a personalized issue, under the control of learners; it is now being determined by contextual innovations and transformations (Ally 2008). [4] This new reality has impacted e-learners who are now unlearning what they had learned in the past, and now they have to assimilate the new rudiments of e-learning and assessing new information. As a philosophical paradigm developed for a digital and networked world, e-connectivism is confronted with numerous 'discursive' challenges that have 'literary' characteristics (Siemens 2005, 2006 and Downes 2005, 2007). [5] New questions have emerged that compel us to understand whether e-connectivism is a new philosophy of learning or whether it is an *effect* of the digital extension of constructivism. For example, is e-learning distributed knowledge with the potential to meet the needs of e-learners in the changing political economy or is it a technology to anticipate learners' needs prospectively? Can digital technology handle emerging trends and issues of learning in distance education and e-learning? What are the new insights that its interactions with the political economy offer to pedagogy in this emerging Twenty first Century?

This paper is premised on the hypothesis that e-learning as digital connectivism does not function in a 'new criticism' vacuum, it is susceptible to the political economy environment of discoveries and to changes in organizational, scientific, technological, social, economic, political, global, psychological, cultural, and informational contexts (Hayes and Wilson 2000). [6] As an educational philosophy, it is never really completely and definitely developed; its conceptual version is not determinate because it is always shifting toward a more accomplished, meaningful, utilitarian and practical paradigm of understanding (Apps, 1973). [7] Digital connectivism is not an autonomous, self-sufficient and self-governing technology, but one that may be more or less appropriate for a given community of learners and for a given pedagogical task depending upon psychographic and demographic factors like academic mission, age, career aims, educational objectives, educational level, communicative proficiency, and so forth. Where e-connectivism is celebrated is where it is condemnable (Andersen 2008: 45). [8] This hypothetical paradigm of e-learning can account for changes in the course of time, predict that comportment is modifiable, testable and widely acceptable in terms of its essential criteria such as creative tools, informational retrieval, the potential for exploitation, communicative enhancement and management capabilities (Wilson 1997; Andersen 2008). [9] Therefore, online learning is expanding with its beliefs and assumptions, key terms, developmental processes and underlying psychograhic dynamics. It is a fertile testing ground for new ideas, for attributing new meanings in organizational contexts, testing how learning takes place, factors impacting learning, the place of memory, and learning transfer. It has criteria to re-determine its organization, selection and presentation of content (Bevis, 1989: 79). [10] Connectivism is a universal paradigm that makes claims to explain all features of the learning process (Mowrer and Klein 1989). [11]

2.0 Theoretical framework

The theory applied in this paper is the critique of connectivism, which is a hypertextual thesis with two paradigms. The first connectivist paradigm states that knowledge is distributed across a network of connections, and that learning is the capability to create and negotiate these networks. Learning is a process connecting specialized nodes and sources of information. In connectivism, the potential to obtain competency from network connections and the capability to know is more critical than what is known currently (Siemens 2005). [5] Connectivism incorporates complexity, chaos, network, and self-organization (Ally 2002). [12] Knowledge structures are not flat or hierarchical; networks enable elements that contrast each other to be selected on the basis of a particular learning activity. Based on the connectivist sketch of learning (Siemens 2004; 2005; 2006

and Downes 2007), [13] an instructional character has tended to provide specificity to education in the learning context, and this stand is opposed to the learning paradigm that is generic and descriptive (Morrison, Ross, Kemp, and Kalman 2011), [14] Connectivism, like instructional paradigms, is situation specific and prescriptive Instructionalism prioritizes the goal of predictable design and objectives.

In this New Criticism paradigm, the emphasis is placed on the digital text and on the meaning of the digital technology taken as if it were a 'poem' with its own aesthetic qualities. Like the literary appreciation School, it has its "beauties" and the task of the appreciator isto point out the morally elevating qualities of the digital text. It is a refusal to embrace Romanticism, to aim for a newer, systematic and objective methodology (Graff 1987). [15] The digital New Critics believed that the structure and meaning of the text are closely connected and cannot be investigated separately. The focus of connectivism, like that of literary studies, was brought back to the study of the texts, without the reader's response, or the intention of the author, cultural and historical contexts, and moralistic bias from their investigations. But from the 1970s, feminism and structuralism as well as other schools of critical theory such as deconstructionist theory, post-structuralism, New Historicism and Receptions studies challenged the critical writings of William K. Wimsatt and Monroe Beardsley who published the New Critical essay entitled "The Intentional Fallacy." For Wimsatt and Beardsley, the words on the page are all that mattered; the introduction of new meanings from outside the text is irrelevant and a distraction. They discounted the reader's emotional and personal reaction to a literary work as a valid means of investigating a text. This fallacy was rejected by the reader-response School of literary theorists like Stanley Fish. The hey-day of New Criticism was during the Cold War from 1950 to 1970 when Brooks and Warren published *Understanding Poetry* and *Understanding Fiction* and stressed careful, exacting scrutiny of passages and their elements like characterization, theme, plot, rhyme, meter, setting, ambiguity, irony, paradox, and tension as methods of establishing the unified interpretation of a text (Wimsatt and Beardsley 1954, Empson 2004, Brooks, C. 1981, Ransom 1937). [16] With the advent of poststructuralism, deconstruction theory, New Testament narrative criticism, and reader-response theory took effect.

The second paradigm implemented in this paper is a rethinking of the New Criticism upon which connectivism is based. It is a new kind of reading which rejects the digital text of e-education as autonomous and stresses the idea that it is divorced from historical context, human meaning, and the social function and effect of literature (Wellek 1978, Hook 1995). [17] Drawing from the reader-response School of theory and from the ideology of liberal humanism, it upholds the critical view that the close reading method is defective because the object and subject of a study, the text and reader, are not autonomous and stable forms in themselves, but products of the unconscious signification process. Therefore, the reader is not simply an inert consumer of a 'ready-made' product but has taste (Hook 1995).[17]

3.0 Findings

Many writings show that behaviourism is just a single dimensional approach to comprehending human behaviour whereas there are multiples of other perspectives such as free will, culture and evolution (Baum 2017), [18] internal influences such as moods, thoughts and feelings (Skinner 1985). [19] In order to understand the processes of behaviour and learning, one must go beyond merely what is measurable and observable, and consider various unseen aspects of an individual which are quite vital in their learning capabilities and personalities. There are other types of learning that take place without the employment of punishment and reinforcement attributed to the effects of external factors. Learners often adapt their behaviour when they are confronted with new information irrespective of whatever previous behaviour pattern was reinforced in them and regardless of whatever behaviour they learned in the past via punishment. They can modify and/or transform their behaviour when new circumstances offer new information.

The reductionist philosophy of behavioralism assumes that all behaviours can be moulded and changed through training by working with the individual to elicit the same learning comportment over and over under a particular stimulus. But there are cognitive and emotional influences *within* the organism that exist as individuals interact. So, humans are not organic machines that can be subjected to learning practices like in e-

learning that is pragmatically "cold". It is inhumane to justify them with statements like 'we are getting results;" or claims of eliciting the desired behaviour from subjects. There are other practices that behavioralism justifies such as in the Stanford Prison Experiment and "no excuses" schools, in which learners are all expected to "behave", that is, to adopt a particular model of suitable behavior based on a particular, peculiar and rigid set of rules or expectations (Zimbardo 2017). [20] In these schools, students are punished or shamed for various infractions and are subjected through conditioning to act, look and speak in a certain way. The philosophy prioritizes conformity as opposed to creativity or compassion. It views and/or treats humans like lab rats (a rat cage view of reality imposed on humans), which is incredibly dehumanizing. In a sense, behaviorism is not a stimulus-response theory, because it often takes into account feelings, thinking, etc. Its nomenclature and terminology are hard to grasp. It ignores or suppresses the humanistic aspects of the human experience such as freedom and human dignity and minds, consciousness, and free will (Source: https://www.iep.utm.edu/behavior...). This is in absolute contradiction to everything that Western worldview, including, for example, the US Constitution and Bill of Rights say about humans. Mental health challenges point to humans being more complicated than the reductive techniques of behaviorism. Education and psychology research point to the importance of both humanistic and behaviourist approaches, not one by itself. If behaviorism was factual, all computer classrooms would have been run without teachers in the 1980s. human nbeings are not merely receptacles for information and fact. That is why teachers do not only teach memorization like multiplication tables but also tutor learners on character, citizenship, ethics, leadership, emotional intelligence, motivation, critical thinking, and other skills which do not simply map neatly to memorization.

Beyond the determinism of behaviourism, there is the motivation that can be intrinsic or extrinsic with different forms of incentives in learners. Novelists *signify* the 'coming of age' of children as a dualised process embedding traditional African and western modes of education, going through a trajectory, namely, that of initiation, socialization, and education into adulthood. However, the experiences vary and are different although the complex process of moving from child to adult is the same. Irrespective of whether the adolescent protagonist is the narrator, the main character in the texts, an adult's perspective, etc, they challenge the idea that there is a *single* trajectory in the babyhood-childhood-adolescence-adulthood process of 'coming of age'. The stories portray experiences that show conflicts between educational ideologies and practices, the cultural, social, political and economic values/ realities of African societies and individual motivations, attitudes, knowledge and sensitivities. The writings evoke tensions felt among youths who 'come of age' through profoundly conflicting educational experiences and their respective societies. The youths follow trajectories that are unique, differentiated and are not replicated. Their trajectories are not strictly consistent either with the educational ideologies and practices nor with the values and realities of their respective societies. Some scholars (Boyce Davies 2002: 106) [21] propose a transnational, polycentric paradigm to understanding differentiations in these trajectories as African people interact with a variety of international cultural spaces. This critical perspective does not spring from a unicentric, essentialistic standpoint such as Afrocentrism or Eurocentrism, prioritize any particular experience nor marginalize any others. Rather, the *forte* of the paradigm stems from its insistence on pluralism, diversity, multiculturalism and therefore on 'transcultural black presences' situated in different locations and attached to a variety of other identities. When these constructs are deployed in conjunction with the ability of people and individuals to define their society and themselves as decentered spaces, instead of a monolithic, behavioural expectation, we should be seeing crosscultural, transnational transcultural presences and multiple discourses that are 'transformational' and open up prospects for multiple modes of being and becoming. Their multiple discourses challenge the dominant, unicentric outlook that western educational, utilitarian, beneficial and behavioural visions are synonymous with the dreams of transnational black presences. Therefore, the place of the *conflict* perspective should be centralized in the analysis.

The girl-child Sophia in Atsango Chesoni's poem "A Coming of Age Poem, a Story Untold" has got 'dreams' that go with an educational system that, in the words of a schoolmaster, are dashed because she becomes 'a butterfly before a cocoon' (202). [22] Sophia matures faster into adulthood before she completes the 'normal' process of transiting from one stage to another from an educational standpoint. Ayi Kwei Armah's (1988) *The Beautiful Ones Are*

Not Yet Born [23] hints at adolescence education in terms of the complexity of 'coming of age' as traditional societies come into contact with Western ideologies and practices of education. The narrator explains that Aboliga the Frog, his boyhood friend in Standard Five, referred to as such for his large eyes, does not grow up into adulthood but is already an old man-child. As Armah explains, he is completely old in everything else save for the smallness of his size. Aboliga the Frog is born with all the characteristics of a human baby, but in Armah's Ghana, this man-child appears to be very old than any ordinary old man can ever look like (63). In Armah's novel, childhood does not follow the 'normal' trajectory, but advances almost immediately into adulthood by intersecting its experiences with events such as corrupt government, broken dreams, disease, loveless marriage, war and multiple deaths. Thus, the man-child symbolizes Ghana as a country that 'comes of age' in too short a time with the prospect of destabilizing itself because it does not follow the 'normative' time-space evolution.

Dangarembga's and Daniel's (1988) *Nervous Conditions* [24] and Emechetta's (1989) *The Bride Price* [25] suggest that the ultimate goal of education in women's *rites of passage* through menstruation, socialization into marriage, etc, is to use education, not as an end-point in itself, but as a challenge to patriarchal practices that minimize their status so that they can be emancipated from certain traditional customs. However, their trajectories are not the same. Emechetta's *The Bride Price*, signifies education as potentiality. Akunna's education in Lagos and Ibuza enables her to learn about the indignities that women endure such as wealthy business men having mistresses (61), tutored girls fetching more bride price (75), sexually active girls losing respect at home (84), menstruating girls not going to the stream (93), young girls not being allowed to marry descendants of slaves (110) and so forth. Akunna makes up her mind to speak and stand up for herself and fight for her respect. However, in her transition to womanhood, she comes to value aspects of her traditional heritage such as her childhood memories about the stories full of philosophy and songs about Ibuza her parents used to tell her, the lifestyle of her ancestors , her slave absolutely intrigues and delight her. In Emechetta's text, education is disentangled by the human agency because the protagonist emerges as an intellectual with a high sense of morality capable of reconstructing subjugated and acquired knowledge.

Similarly, Camara Laye's (1966) *L'Enfant Noir* (*The African Child*) [26] is an example of how western education fails to detribalize and rationalize the African child who internalizes his ancestral culture, namely, the spiritual power, which his father subscribes to, the craft of goldsmithing, the games little children play in Tindican of French Guinea, the rice harvest traditions, the gifts of his magician mother, the festival of the lions, the ritual of circumcision, which he appreciates as "a really dangerous ordeal, and not game" (111). When the protagonist travels to France for further studies, the expectation is that his confrontation with western education would threaten the survival of this indigenous knowledge. But Laye's (1966) text *Dramouss* (*A Dream of Africa*) [27] shows that Laye's attendance of the technical college known as Ecole George Poiret, triggers an internal conflict between his western education and his indigenous past. He develops nostalgic feelings for his friends, his hut and his family at Kouroussa as he finds that the school year "passed slowly, very slowly" (155). His exams at Conakry, and his studies in France do not erase his fondness for his mother, culture and traditions. Similarly**,** Tayeb Salih's (2009) *Season of Migration to the North* [28] portrays Mustafa who decides to ignore his western education and comes back home develop his business in his hometown. In Flora Nwapa's (1966) *Efuru*, [29] Efuru is faced with different challenges but she makes decisions for herself. She is a lady who, despite the changes around her, the divorce with her first husband, the advice from friends, still maintains her identity, her mind (see Marjorie Oludhe Macgoye's poem "for Miriam"), her independence of spirit, desires and impulse for business contrary to beliefs in traditional African societies. Although, as an African woman she is expected to show submission when she is sexually starved for six months by her husband, she argues: "there is a limit to human endurance. I am a human being" (53). She points out that her husband gave her treatment like a slave, and, she decides to abandon him and return to her family.

In these different stories, western education does not feature as universal essentialism; there is no absolute assurance that education is in itself inherently good, that it can provide the mode for a better life nor ameliorate the human condition. Consequently, there is no such thing as education in and for itself; education needs political activism to maintain an alert human mind. Madhu Prakash and Gustavo Esteva's (1998) *Escaping Education: Living as Learning within Grassroots Cultures*, [30] maintain that education is one thing and human rights is another; the two are not interchangeable. They also maintain that education is not necessarily the same thing as well-being: those who enjoy life

are the commons with their cultures and local knowledge (xi). Education intersects with conflicts in the relationships of people and different spaces; the loss in social capital, which is more critical than economic capital (Basil Bernstein) because it comes with emotional costs for people with profound community roots. Education interfaces with self-knowledge as in Nwapa's *Efuru* where Efuru's independence of mind and intuitions about business augments her trust in her own ability to serve responsibly. Educational objectives conflict with economic, cultural, political, social, and spiritual values of African or other world communities. Evidence is that the richest people on earth are not necessarily the greatest intellectuals or most educated people.

4.0 Discussions

In the light of the above findings on behaviourism and education with insights from one of the major disciplines of the humanities, namely, literature, it is now clear that instructionalism is insolvent to all learning challenges (Wade 2010) [31] that ignore the cognitivist-developmentalist paradigm of learners. It is not enough to design e-lessons; beyond that is the creative question of *how* learners learn, namely, the various developmental stages from the concrete and the simple in the premature years to the stage of the abstract and the complex. Cognition is not a static experience like instructionalism; it has to do with heredity and environmental factors that play on human developmental learning (Ohta, MacLeod and Uttl, 2005: 2). [32] For example, in cognitive psychology, there is elastic interaction with the environment, there is 'cognitive control' that takes precedence over experience because learners are not simply inert recipients of knowledge and information but learning involves an active manipulation of pedagogical material (Ibid). So, the challenge with digital connectivism is that it prioritizes *technopoly*, that is, total submission of culture, personality and social institutions to technology and the conflation of technological innovation and human progress. Digital connectivism interconnects with technology and learning to a point where the rational and the technical replace human factors like decision-making and become normative (Polkinghorne 2004). [33] The technical-rational model enforces scientific propositions to determine specific learning goals at a time when the nature of the learning process is in flux (Mezirow 1997). [34] So, digital connectivism is a deterministic value of *what* the technical curriculum is, but excludes the *how* of learnership; it leaves out all forms of cognitivism, behaviorism, constructivism, and *learner-driven* or learner-centered inspirations and intuitions.

Human cognitivism has many repercussions in the universe of e-learning and instructional design applications as a result of the difficulty in observing learner interactivity within their learning environments. Consequently, the designing of e-learning content must be intimately tailored to the cognitive ability of each and every learner. E-learners should be able to re-shape their dashboards on the basis of their intimate preferences, which vary from responses to graphical stimulus, to audio-visual, text-based resources and other ecological environments. E-learners should be able to 'control' of how digital lessons are offered so that they can assimilate content efficiently. E-learning should be facilitative of cognitive learning by methods of self-discovery. E-learning should not be a top-down curriculum-focused programme with content that merely instructs learners; rather, content should stimulate learners to discover certain aspects of the curriculum by themselves and, in this way, learning becomes a co-creative process. Core concepts can be presented in a lesson with learning points and the learner is asked to research content that opens up room for supplementary evidence, critical opinions and other self-discovery exercises. E-learning content designers and sponsors of courses, can then 'test' learners at the end of a lesson or a module through quizzes and assessments that highlight their reasoning skills behind their responses. In this way, e-teachers can leverage insights into the thinking processes that learners deploy to answer quizzes. This process can greatly strengthen their ability to comprehend and assimilate knowledge and is different from the present mode of 'compressed' learning in digital education marked by simple delivery of videos and sets of slide presentations, online quizzes and so forth. This e-format deprives learners of in-class cognitive and interactive pedagogy.

Behaviorist theorists maintain that learners learn more from other learners than they learn from teachers with their bullet points. Therefore online interactivity can take the form of chat group participation and group discussions which should then be incorporated into the overall course evaluation. Each online learner should

study at their own pace when the learning process is tedious. By motivating learners to learn through role plays, simulations, multi-player games, group discussions and chats, their cognitive capabilities can be optimized. E-learning with its pre-designed scripts, runs the risk of rigidity, and therefore, it is necessary to give 'control' to the learner so that they configure their own paths of personalized learning. All e-distance learners cannot progress at the same level because they do not have the same level of cognitive capabilities. The sequencing of learning content in accordance with the learners' own way of feeling and own needs may mean that learners skip past particular lessons they deem too easy or repeat other lessons considered to be more difficult a number of times, depending on their levels of individual comfort with a course. E-learners can be enabled to access various media of learning wherein content is articulated in highlighted points; texts are provided as clarification notes and as annotations and content are appended through audio files, open-source and video links as 'possibilities' for learners to explore a course further, if they so desire. Digital technology presumes that learners are the 'colonized periphery'; but cognitivism shows that learners of today are 'post-colonialized individuals' who deploy their intellect to 'think' about what they are being asked to internalize. From this cognitivist light, e-knowledge designers have a moral responsibility to challenge the minds of learners to the maximum. This is the way in which e-learning can become 'intelligent learning' as opposed to static or predictable learning with predetermined curricula, setting out objectives, expected outcomes, methodologies, etc.

The affordances of open publishing and digital media are very attractive to practitioners in this age of capital when e-learning is simply a question of *connecting* facts, people, ideas and communities, creating opportunities for interaction (Rudestam and Schoenholtz-Read 2010, Anderson 2008, Bell 2010). [35] But in the light of connectivism, a major challenge is the conduciveness of organizational structures to the context of knowledge (Siemens 2006). [36] Connectivism is limited in its capacity to incorporate *autonomy* of people, knowledge and information; everything is reduced to connection by webs of culture and context. Technopoly reduces learning and learner networks to one and the same things but is silent as to the pre-connection contexts that have to do with *how* content develops to construct learning networks, and whether learning or learner networks precede the other. Of course, the e-learner is a separate experience from the knowledge connectivity experience and digital interactivity is simply a way of flattening the differences between them (Siemens 2005). [37] From this light, connectivism is not strictly speaking a learning theory: it cannot currently account for what motivates learning, for example, its universality or the human behaviorism that underpins it (Herrington and Ron 1999). [38] Connectivism cannot account for its pre-connectivist existence; for example, it cannot account for the notions that informed the connectivist framework, such as the definition of knowledge (Calvani 2008). [39] It can only *describe* knowledge but cannot account for cognitivism, behaviourism and constructivism that *explain* the nature of the learner. Digital connectivism is about the impact of cyberspace technologies in terms of interactionism and interconnectivity, but the human mind is not a technology with definitive features contained within a black box; it is not a computer nor does it construct reality. It is more characterized by cognitivism and behaviourism. The computer applies to the mind of the learner only as far as the human mind is a connection-creating structuration in which beyond thinking, there is sorting out and filtering. Consequently, connectivism can transform learners from passive consumers of knowledge to active contributors to knowledge production on the condition that these literary insights are integrated. Connectivism undermines the construction of meaning and prioritizes the complexity of productivity, the transparency of knowledge as opposed to the meaning of it (information overload). The human eye cannot discern complexity reserved for technology (such as big data analytics) but can appreciate the signification of it. Thus, connectivism now prioritizes the formalism of learning; networking itself has become what is called 'knowledge' and all that is connected to it becomes 'knowledge makers' irrespective of whether they conform to scientific principles. A challenge then for e-educators is to assist the learner to comprehend the difference between unreliable sources, fake news, etc and scholarly academic knowledge.

Digital connectivism in the educational context is not simply a matter of e-learning, it is also a question of the *effectiveness* of digital education. Connectivism is inevitably confronted with this challenge because it

has to be an epistemological shift from the old educational system of stable knowledge content to the new orientation of knowledge management that emphasizes utility covering learner needs and extending to tool-sets. Online learning should not be comprised only of the training seminars of old but rather should now become corporate learning portals. It should now concern itself with performance, the dynamism of the learning environment, customization of value perceptions, and management systems. It is about the market, interest groups, and customized solutions (Urdan and Weggen, 2000). [40] But while the e-learning *solutions* of the market have clear advantages, they raise new contextual questions in terms of their potential for maturity, standards, effectivity, and functionality. The functionality and effectivity of e-learning are judged in the narrow technological sense of browsing mechanisms, on-line quizzes, web links, virtual universities and other static learning scenarios rather than from the literary perspective of learner *satisfaction, intuitions, impressions* and drives that with all the e-learning platforms may still be negative as they may not support value delivery.

E-learning should become an attempt to simulate the classical ways of teaching, but there are still major differences with traditional learning. It has potential for content enrichment but the challenge is in how to add value into the classical modes of learning content, how to test its ability to support various educational goals, intellectual capital exploitation in business and academic environments and the formulation of a framework to endorse the Enterprise Application Integration that considers the learning needs of business enterprises. Many e-learning initiatives are not effective because most of them are limited to the customization of platforms of learning for facilitating the delivery of content on a static, predefined and sequential way. The integration of knowledge management software like learning objects databases endorses effective management of e-learning content in the light of the utilization of knowledge bases and re-usability. Nevertheless, such functionalism of the e-learning environments is inadequate: E-learning platforms have to construct dynamic features for the benefit of learners and trainers alike before the effectiveness notion can be a reality. There is a need for more sophisticated technological software enabling the institution of dynamic e-learning strategies. E-learning should be oriented towards learning processes that define the expanding and flexible pedagogical paths for trainers and different learning processes can provide varying learning scenarios with embedded learning subtasks. Effectiveness will also require increased profiling capability for the e-learning platform so that one-to-one learning situations can be envisioned. Effectiveness would also require the capability to come up with learners' *needs*, to varying learning *styles*, and segment learners in accordance with their *preferences* in particular learning processes, identification of learning *objectives* in the light of knowledge deficit, etc as opposed to merely customizing learner scenarios. The new orientation of e-learning has to capture not merely explicit but especially tacit knowledge available in people, services and businesses.

In the technology-to-learning process grid, it is important to understand, create meaning and develop an intellectual capital exploitation capability that breaks down the pedagogical process into separate assignment tasks on the learning grid. By specifying the parameters of the learning situation, learning processes can transform the modes for the training of, for example, company executives. E-learning processes should go with augmented information transformation and this should enhance learning goals. The value delivery through the e-learning paradigm can be organized through the deployment of particular learning templates. The technology can be designed to navigate the learner through a digital mechanism that selects the learning context considered as the best fit for the needs of the particular trainee. The aim here is not to value satisfaction but rather the formulation of a methodology upon which the learner would be accountable for the preservation of content material capable of supporting diverse value levels of learner development. Such a metadata content device can support the taxonomy of learning content on the e-learning system and knowledge-content base. The new question therefore is this: can we speak of efficiency of e-learning in the knowledge management system based on data pedagogy and, at the same time, speak of learning styles, learning processes, modes and motivation parameters (Lytras and Pouloudi 2000, Lytras, Pouloudi and Poulymenakou 2002a, Lytras, Pouloudi and Poulymenakou 2002b). [41] Digital infrastructure like servers, digital cameras and e-learning platforms like Learning Space, Blackboard and WebCT, can be used to enhance the functionalism of the technology in dynamic ways that construct content. However, the e-learning platform also has the responsibility to support

learners in various modes than just sequential browsing of educational modules. This is a major weakness of digital technology that cannot facilitate knowledge exploration in accordance with particular learner needs. Pedagogically, it is difficult to recreate learner material given the limitations in the linking of html pages.

Digital content management constraints the scenarios of creativity and flexible learning that literature teaches us about. Instances of such restraint can be found in the GEM consortium (www.heltrun.aueb.gr/gem/new), a network of schools of business that share a general curriculum at the Master's degree level of e-commerce. The digital curriculum was set up by faculties of business and universities in the US and Europe and endorsed by the G7's Information Technology group and the European Commission. As a process of the Masters's degree curriculum, the e-learning facility was envisaged in terms of the potentialities of integrated online platforms to meet these limitations pointed out. It was in this light that the Athens University of Economics and Business started to expand the e-technology Masters's degree programme for e-commerce. The Multimedia for Open and Dynamic Executives Learning is an innovative method that seeks to develop a *dynamic* environment of learning with the capabilities to efficiently manage knowledge in business units. The project attempts to redefine prospects for a new market of solutions and tools for knowledge management. This *niche* market facilitates the exploitation of human capital and the growth of competencies. The core competencies are developed through processes of vital business that provide a web of interconnections between knowledge resources, tasks, evaluation standards, people and customers.

There is a dearth of knowledge management systems capable of augmenting knowledge re-*deployment* and re-*usability* for training purposes. As a result of this weakness, the training for executives was achieved chiefly through workshops and seminars but without pre-defined quality standards. The outcome was that businesses were penalized as a result of the e-learning incapacity to support newly hired employees in accordance with the changing characteristics of the business environment and core business processes. The cost of training a new employee was thus susceptible to increases when one considers the pre-eminence of knowledge processes as opposed to routine business processes. The cost of learning increased because the mission of training was more about value creating. It was as a result of these weaknesses that the Leonardo Da Vinchi project, e-LEARN, inquired into the ability of WebCT to assimilate English courses for managers of public sectors in cooperation with Linguaphone. The Educational Space without Limits project established a postgraduate Masters' course in Greek Universities thanks to the deployment of WebCT in order to strengthened e-learning evaluation and efficiency but they could not completely meet all the humanities challenges.

Digital technologies formulate informatics such as artificial intelligence and, at this level, we can talk of performance and efficiency. The fact that e-learning platforms are purchased, their content is appropriated, and can be delivered on a twenty-four hours basis to learners all over the world, are enough justifications: The challenge though is the ability of the technology to realize a three-dimensional model that extends the classical criteria for e-learning. The Multidimensional Dynamic Learning (MDL) Model was created based on the e-learning, knowledge management and application integration dimensions where knowledge management is embedded into the e-learning pedagogy and business applications. Therefore, knowledge management of e-learning should administer e-content in a multiplicity of formats, in order to re-deploy e-learning modules and endorse knowledge management processes like knowledge creation, transformation, codification and diffusion. The e–learning component should be able to construct efficient learning systems and processes that support the realization of various pedagogical objectives. This component has to do with questions of learning needs, style, settings and templates. E-learning platforms should be able to strengthen the re-deployability of content in learning and facilitate redesigning of content and the fact that this is not the case burdens the efficiency of these digital instruments. The re-deployability of content and the endorsement of high value processes of learning suggest that the digital knowledge system should be capable of categorizing, integrating and enriching different learning aims. Consequently the enhancement of e-learning content through metadata is a prerequisite for the implementation of dynamic learning. E-learning platforms, like those cited, hardly provide the necessary

metadata to learning content and whenever this is enforced, no system enables data mining of relevant learning objectives to take place from the learning warehouse system that administers learning content.

Application integration is necessary because platforms of e-learning should develop the ability of cooperation with business applications so as to retrieve e-learning content from real business operations This characteristic is very uncommon in e-learning platforms and, as a result, this creates gaps in the effective enforcement of e-learning mechanisms. The problem of inadequate content in multiples of situations is owing to the failure of organizations to institute or acknowledge generation machinery through information system operations that support business processes. E-learning systems in corporate environments are actually the intellectual capital apparatus (Stewart 1997) [42] that can revitalize the knowledge management framework and boost the e-learning life cycle, as well as transform the knowledge objects. The XML language for example, augments the ability for insertion of semantics into knowledge objects and each knowledge phase enhances the primary knowledge objects with particular metadata. E-learning can therefore be enriched through appropriate knowledge management strategies, ontologies (Staab and Maedche 2004), [43] semantics and annotations (Perez and Benjamins 1999, Gómez-Pérez and Benjamin 1999). [44] A sophisticated e-learning system is one in which the pedagogical scenario is constructed dynamically through the exploitation of learning processes. The hope in the future is for the creation of an integrated e-learning system of knowledge management with the potential to renew itself and adopting to new contexts.

5.0 Concluding remarks

The question of digital connectivism in e-learning remains open-ended because in digital humanities, the issue of the location of the 'humanities' remains vast, undecidable and unsettled as literature instructs us. However, it is also possible to show that digital connectivism is not only learning theory in the 'classical' sense of the term, but, rather, is an account of *how* (i.e., the modes) the expanded conception of learning occurs in a digital and networked global environment. The e-learning platform of the future should prioritize not only connectivist paradigms but also skills of behaviorism, cognitivism, and constructivism, and with regards to the design and practice of new and flexible online materials. In behaviourist paradigms, the e-learner learns strategies about facts (the *what*?); in cognitivist paradigms, they learn strategies and processes about the *how*, and in constructivist strategies they apprehend a pedagogy of real-life and personal applications that put learning in a different educational context. Behaviourist, cognitivist, and constructivist theories have contributed in different ways to the design of online materials, and they will continue to be used to develop learning materials for online learning. Behaviourist strategies can be used to teach the facts (what?); cognitivist strategies, the principles and processes (how?) of knowledge development; and constructivist strategies to teach real-life and personal applications and contextual learning. In the new consultancy model of e-learning being recommended by this paper, there is a shift from insistence on chiefly technological determinism toward constructivist e-learning, in which learners are given the opportunity to construct their own meaning from the information presented during online sessions.

The implication of this study for digital humanities is that online learning materials should be re-designed in segments that are suitable for different learners and contexts. Online pedagogy can integrate web technologies and 3D interactive graphics so as to promote interactivity and realistic environments of developing online learning (Chittaro and Ranon 2007a, Chittaro and Ranon 2007b). [45] Online learning should be increasingly diversified as a technological response to various learning cultures, styles, and motivations. Connectivism should facilitate learning for various forms of knowledge, learners and their affordances. From time to time, complications of practice may be inevitable: they simply articulate the need for shifts toward constructivist e-learning, wherein learners reconstruct their own meanings from information retrieved during online sessions. Online learning materials can be re-deployed to meet the needs of individual e-learners and can be constructed in such a manner that they answer new questions about how people learn, what are the unique markers of the Web that strengthen wide-ranging learning environments, and the forms of interaction that engage learners and teachers. Online learning can deploy the Semantic Web to impact on best practices. It

requires prior recognition and evaluation of learners in terms of knowledge acquired in educational institutions, credentials awarded, the value of time spent by learners, etc. This model of digital humanities is critical to ensure that online knowledge is simply duplicated since the e-learning tools may not efficiently gauge a learner's prior knowledge, payment of cost capabilities and time availability. Such evaluated portfolios are good for sound techno-pedagogical effectiveness and infrastructure that can deliver quality distance learning. The infrastructure for online learning should include planning and organizational issues, human resources, and accommodation of changing student needs, curricula and technologies like blogs and wikis.

The online technology that is preoccupied with the humanities would consider modes of teaching presentation, learning performance, the presentation medium, cultural prerequisites, such as can be found at Athabasca University that incorporates the social software suite (http://me2u.athabascau.ca) and Web 2.0 tools in order to offer new opportunities for creation of online learning communities and student-support groups. With these tools and approaches, distance education becomes collaborative, consultative, and advisory to ensure the satisfaction of e-learners. E-communication can be facilitated through multimedia development, the participation of learners in a value chain, efficient online learning experiences, contexts of quality. In order to optimize the effectiveness of teaching in online learning, there must be a conjunction of cognitive, social and teaching presence to facilitate course delivery as is the case in Athabasca University. Online learners need library support, virtual libraries, collaborative contexts of interaction, learner feeling of independence, flexible, best practices and self-assessment possibilities. Online learners need textual, listening, audio and visual or video materials. E-learners need to do research, prepare journals of reflection, practice activities that embed feed-back, possibilities of adjustment, interactions. In this way, e-learners will be able to explore their sensory store, interact with content and with other learners share cognition, form social networks, and establish social presence through the construction of their own meanings, the personalization of information and the transference of their acquired knowledge to real-life beyond immersive contexts like SecondLife (http://secondlife.com/) and Activeworlds (http://www.activeworlds.com). Online education should be the capital of the 'gift' society, an economy with a very generous, open-ended, intuitive and expressive human mindset rather than merely an economic, deterministic and behaviorized, ecological infrastructure.

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