Knowledge Authoring in E-learning: An Ethicultural Diagnosis

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Abstract: - The intent of this manuscript is to emphasize if distributed knowledge creation within higher education encompasses an ethical and cultural sensitivity. This research problem resumes the ethical and social dilemmas that e-learning evolution imposes to knowledge “creators”. For that, under enquiry will be empirical examples through Silva’s framework, namely the knowledge/content management layer. Therefore, this contribution is divided into five sections: theoretical assumptions; knowledge dimensions (political, economical, social/cultural and digital); knowledge development cycle; knowledge authoring in e-learning; and discussion (ethicultural: the meaning, framework design and practical examples).

Key-Words: - Knowledge, knowledge authoring, e-learning, ethical issues, cultural issues, diagnosis

1 Introduction

Literature referring e-learning is immense and rich, however the authors highlight the following definition: “e-learning will here be defined as the use of ICT in higher education, which aims mainly the independent use of technology by students” [1, pp. 21]. Hence, e-learning concept leads to a formal scope of educational design which the latest learning environments dare in a continuum of thought, from “established” to “emergent” [2].

This is consistent with the critic as regards to the attempt to coerce formal education within student-centred learning environments 2.0, such as: networks, skype, msn, and blogs [3]. Besides, this critic is enhanced by e-learning 3.0 (web semantics), because it contravenes the limits of traditional institutions, increasing self-organised learning [4]. Therefore, it is possible to refer that e-learning evolution is moving towards from a collective (e-learning 1.0), to a personal centred learning (e-learning 3.0).

As a consequence, “knowledge creators” face a new challenge: ethicultural sensitivity. Nonetheless, literature tends to neglect this debate focusing only design issues [5, 6], and not the knowledge creation process itself. Ethical sensitivity is vital to ensure society expected outcomes [7], as well as cultural sensitivity is the praxis for development [8]. Likewise, this contribution intends to summarize empirical results concerning the links between knowledge creation in e-learning, ethics and culture. For that, the paper will be divided into five sections: etymological analysis; knowledge dimensions (political, economical, social/cultural and digital); knowledge development cycle; knowledge authoring in e-learning; and discussion (ethicultural: the meaning, framework design and practical examples).

2 Theoretical Assumptions

Academic knowledge reflects dissimilar normative perceptions which knowledge sociology has been debating. As an example, the authors refer Plato’s work “Protagoras”: “knowledge is the food of the soul” [9]; nevertheless, higher education acknowledged as mandatory formal knowledge categories [10]. This level of formality can be bounded to the concept of “authoring”, because is an “enlarger, founder, master or leader” or, even “who sets forth written statements” [11]. Although knowledge society connectivity symbolizes a novel leap as regards to academic knowledge taxonomies, as well as the concept of authoring [12].

A close-up analysis to distributed knowledge implies to comprehend its two generic principles [13]: autonomy (each individual should have a high level of autonomy to manage its personal knowledge); coordination (each individual must be allowed to share knowledge with other individuals, not through imposition but through context understanding. In fact, [14] argue that coordination leads to a broad understanding of authority (empowerment) despite knowledge heterogeneity.

Following [15], the idea of authorship as a solid concept is not a realistic assumption, because the core issue
relies on the author functions and not in the concept itself. To [15], “function” acknowledges a set of values or assumptions that govern the production, distribution, categorization and utilization of knowledge. Thus, four key characteristics are referred: is bounded to the legal system, as a consequence of transgressive behaviours; it depends on the theme; it concerns the editorial attribution; it does not imply an individual. This last assumption clearly leads to a crucial milestone: who is creating that knowledge? And, if generates knowledge with an ethicultural sensitivity?

3 Knowledge Dimensions

3.1 Political
According to [16] contemporary universities are “knowledge servers”, because their essential role is to generate, protect, combine, share and apply knowledge. Despite this claim, it is crucial to underline the following issue: who possesses strategic control regarding knowledge authoring within distributed environments? A possible answer, at least at some extent, relies on The Recursive Model for Knowledge Development in Virtual Environments [17], which enables three dimensions: knowledge authority (refers to who possesses strategic control about knowledge); teaching approach (enables the lecturing strategies); and knowledge approach (educational purposes and instructional intent). The expression “at some extent” resumes important critics: teaching and knowledge approach are both clearly dependant of knowledge authoring; and, the “knowledge creator” can be an institution (vendor or the university itself), or even an individual (coordinator and tutor)!

For that reason, if the “creator” does not embrace ethicultural sensitivity as a strategy, the outcome will entail ethical and cultural dilemmas. Furthermore, ethicultural sensitivity is an individual or institutional moral responsibility? As a result, to safeguard non-diversity values in universities is unsatisfactory and innocuous [18].

3.2 Economical
If e-learning is worldwide accepted as a precondition for future social and economic growth, providing a novel critical style as praxis for available education [19], it implies that knowledge became a key resource. Knowledge as a heterogeneous bundle can be characterized through four levels: tacitness; indivisibility; complementarity; and, appropriability [20]. Regarding tacitness, knowledge can be purely tacit or codified. Even so, as [21] argues, the degree of commonality among agents in sharing codes and languages interacts with its levels of tacitness. Indivisibility acknowledges an array of potential applications within a certain context [20], which can be bounded to generating new knowledge by each individual as a consequence of accessing external knowledge (complementarity) [20]. Finally, [20] also claims that appropriability symbolizes the economical advantages concerning a proprietary knowledge strategy. Nonetheless, what dimension do knowledge creators value most? Ethical value added resuming an ethicultural analysis or, pure economical profit?

3.3 Cultural/Social
Contemporary educational conditions impose a high diversity concerning social interaction, meaning dissimilar cultural backgrounds. Individuals therefore vigorously look for commitment and mutuality with others in an endeavour a coherent self-learning [23]. This social interaction enables learning, however collaborative learning is the way for knowledge acquisition [24]. Despite this argument, literature suggests that cognitive results tend to emerge from particular social interaction (peer-to-peer, social networks, etc.), rather than is diffused through social dynamics engaged by the knowledge creator. So, an important query arises: can we morally oblige the knowledge creator to be ethicultural sensitive? Beyond this assumption, if a knowledge creator is sensitive regarding ethical and cultural issues can we expect an equal level of sensibility for every culture?

3.4 Digital
Digital systems promote a collective input and not an individual ownership which [26] underlines, despite its relationship with knowledge social production. Hence, e-learning is transformed into distributed learning, or into distributed knowledge [26], meaning that course components are distributed across multiple media, as well as exhibits a tendency for a student-centred learning approach through a collective contribution [27]. This is consistent with e-learning evolution: from a collective standpoint (e-learning 1.0), to a personal centred learning (e-learning 3.0). In fact, [28] argues that Learning Management Systems (LMS) embrace two levels of analysis: Learning Knowledge Management Systems (LMS development as a consequence of social interface); Learning Oriented Knowledge Management Systems (LMS evolution at an instructional level). Naturally this personalization implies a higher level of learner’s diversity, and therefore enhancing the need for ethicultural sensitivity regarding knowledge creation. Moreover, the authors claim that the distributed
knowledge system must also accommodate ethical and cultural constraints, or else the outcome will be null (read section 6.3).

4 Knowledge Development Cycle
Knowledge development cycle in e-learning clearly embraces a sociological point of view. Therefore, sociological knowledge management models as for instance the SECI model [29] or, Alan Fiske relational model [30] provide us important clues considering the underpinnings of knowledge life cycle. Despite this argument, these models tend to disregard the ethical issues that knowledge creation imposes [31]. Additionally, it is required to acknowledge the discrepancy between knowledge and content because it resumes a dissimilar knowledge development cycle [32]. Beyond this debate, it is necessary to shed some light about the underpinnings of knowledge maturation within distributed learning environments. According to [33] some criteria can be pointed out: hardness (explains the alleged legitimacy and consistency); interconnectedness/contextualization (connections to other topics become visible); commitment/legitimation (related to the audience and form of support); teachability (immature knowledge imposes unlike learning challenges). Hitherto, literature regarding knowledge development cycle clearly neglects the ethicultural dimension!

5 Knowledge Authoring in E-Learning
Learning environments encompass two key “knowledge creators”: the coordinator and tutor. Each “knowledge creator” has minus or higher levels of responsibility depending on the educational systems, as for instance: in North European countries the coordinator entails a higher level of responsibility; and, in South European countries a contrary scenario occurs [34]. To [34], is expected that a coordinator exhibits a high level of knowledge in the novel use of ICT across curriculum and stages of education, as well as a high degree of inter-personal skills in developing, implementing and evaluating the university e-learning program in accordance to policies and guidelines. On the other hand, [35] acknowledges a five stage model for e-learning regarding tutors activities: access and motivation (stage 1); online socialization (stage 2); information exchange (stage 3); knowledge construction (stage 4); development (stage 5). Moreover, [36] claims that a multicultural situation is enhanced by distributed learning environments imposes necessarily to tutors a challenge about ethicultural sensitivity. Yet, regardless this refreshing contribution is the authors’ belief that two feasible queries emerge: does not the coordinator face the ethicultural sensitivity challenge? And even if, both “knowledge creators” possess this distinctive characteristic, are these morally oblige to be familiar with all ethical and cultural backgrounds?

6 Discussion
So far, the authors have been debating the knowledge creation process itself, as well its potential “creators” in e-learning environments. However, the debate surrounding the concept of ethicultural sensitivity seems to be neglected, which in fact is not entirely necessary. This structure configures an overall strategy in order to maximize the discussion regarding the research question, as well as to corroborate this notion through empirical data.

6.1 Ethicultural: the meaning
According to literature, ethical sensitivity is an individual’s ability that “involves an awareness that something one might do or is doing can affect the welfare of someone else (or may affect others’ welfare indirectly by violating a general practice or commonly held social standard)” [37]. On the other hand, cultural sensitivity comprehends that diverse cultures have different contexts for and perspectives on what are proper and respected [38], which is consistent with cultural relativism: a different culture does not agree with a particular ethical standard, so that standard should not be applied in that culture.
Therefore, an ethicultural diagnosis concerning knowledge authoring within educational organizations intends to analyse the relationship between knowledge creation, as well as ethical and cultural sensitivity.

6.2 Framework design
In order to address the ethicultural sensitivity in e-learning the authors introduce the e-university strategic implementation conceptual framework [39]. This framework engages an interactive process of bottom-up and top-down feedbacks in order to allow a real time comparison through four layers: value added (a transversal cost/benefit ethical analysis, which aims to provide information regarding the e-University project, and each layer individually); computer mediated communication (is transforming education making learning more interactive, diverse and enjoyable experience. This layer is prosperous in social interactions); knowledge/content management (knowledge and content creation procedures, despite be virtually impossible to detach distribute knowledge
without acknowledging the other layers; technological infrastructures and services (encompasses all technological means that support the distributed knowledge systems, as well as back-office or administrative services).

Although, given the overall objectives of this manuscript the authors draw their attention to the knowledge/content management layer.

6.3 Practical examples

Given the overall objectives of this manuscript the authors argue the following steps of analysis regarding this sub-section: to introduce the ethical and cultural dilemmas within each knowledge dimension; to interact the open queries versus dilemmas through the glens of the “potential knowledge creators”.

For that, under scrutiny will be the collected empirical data of the first author ongoing research project, which illustrates Lusíada Universities e-learning project. Despite the organizational strategic interest in e-learning in Portugal and Angola, its constant revaluations introduce also never-ending dilemmas ethical issues and cultural dilemmas.

As regards to the political dimension it is possible to acknowledge significant social dilemmas: unequal regulatory procedures; and, inequality concerning knowledge sharing. Inequality about regulatory procedures highlights Portuguese knowledge creation, which is according to Bologna Process. Nevertheless, in Angola regulatory procedures are almost inexistent, as well as frequently ignored: absence of a syllabus, or even class summaries are exemplifying examples. Consequently, in Angola pre-Bolonha curriculums are still utilized since 2006 despite the existing negotiations to adopt the current ones.

With reference to the economical dimension it is crucial to point out the organizational differences between Portugal and Angola, because impose dissimilar conceptions about knowledge creation economical value. Lusíada University of Portugal was founded in 1986, and assumed a configuration of a non-profit corporation which became a foundation in 2003, as well as is geographically distributed Lisbon (centre of the country) and Oporto (in the north); and, Lusíada University of Angola was founded in 2001, encompassing a profitable organization.

Moreover, the absence of specialists (tutors) compels Lusíada of Angola to hire these abroad. Therefore, the most common tutors’ nationalities are: Portuguese, Brazilians, Cubans, Russians, and even Eastern Europeans. These are extremely well paid, which imply extremely expensive tuition fees: in Angola correspond 2/3 of one wage. Hence, an important social dilemma (equity) arises: education is restricted to wealthy social classes! This dilemma is clearly enhanced because the bureaucratic procedures to get a visa are extremely costly, difficult and slow, as well as travelling arrangements. These features enable tutors to demand even higher wages!

Concerning the social/cultural dimension, it is reasonable to attend knowledge sharing and its underlying issues: linguistic understanding; knowledge cultural sensitivity. Regarding linguistic understanding abundant inconvenient have been reported, since tutors are mostly non-African natives. Some key examples are: pandilha (Brazilian) instead of folha de cálculo (Portuguese) regarding Excel sheets; Cubans do not pronounce correctly or, in a distinctive way some Portuguese vocabulary derived from Arab language, such as algarismo versus algoritmo. These facts are enhanced by the 42 different native dialects that exist in Angola, in spite of Portuguese be the official language. Moreover, these tutors are clearly less culturally knowledgeable because the previous requirements (visa and travelling costs) prevent them to travel often to Angola in order to understand local culture.

Finally, the digital dimension embraces the learning distributed system itself. Lusíada Universities in Portugal possess a proprietary distributed learning system which Angola has been using, although the system design does not report any ethical and cultural sensitivity. The most relevant example is the technological features (infra-structure liability) required to support the knowledge distribution. According to the [40] report concerning ICT for Development: for Portugal, Internet subscribers (per 100 people) in 2007 was referred 15.2, and infrastructure liability (international Internet bandwidth (bits/second/person)) encompassed 4,790; as regards to Angola, to Internet subscribers (per 100 people) in 2007 the integer was 0.3, and infrastructure liability (international Internet bandwidth (bits/second/person)) coverage was 17. Therefore, the system design simply neglects because Angola requirements prevents knowledge distribution. Moving forward, the interaction between the open queries versus dilemmas resumes the following conclusions: from a political point of view, ethicultural sensitivity is clearly an institutional moral responsibility. If Lusíada Universities aim to share their mission, principles and organizational culture, curriculums should be ethically and culturally adapted, as well as Bolonha procedures should be implemented in Angola in order to allow students exchange; in knowledge creation prevails the economical dimension, as a consequence of economical systems; on the other hand, it is expectable that knowledge creators possess an equal sensibility as regards to every culture, because an individual assumes multiple cultural identities given its multiple social roles
which is enhanced by ICT, meaning that cultural adaptability must be a reality; regarding the distributed knowledge system, it is necessary to incorporate tools for knowledge creators attend linguistic and liability problems, as well as learner’s skills; finally, in all knowledge creators must be familiar with ethical and cultural backgrounds, so coordinators and tutors have that moral responsibility. Even so, each organizational context embraces different conclusions depending on the level of responsibility of each knowledge agent (coordinator or tutor).

7 Conclusion
Distributed knowledge compels serious ethical issues and cultural dilemmas to 21st century universities. This is consistent with the argument of [41], that higher education institutions, as well as its stakeholders should consider the advantages and disadvantages of ICT. Beyond this assumption, is also to refer that education aims to personify “the beliefs, traditions, customs, rituals and sensibilities along with the knowledge of why these things must be maintained” [42, pp. 28]. Therefore, it is urgent that “knowledge creators” perceive the impact of their actions within distributed learning environments, because as empirical results demonstrate (see for example [43], [44] and [36]) that attitude is far from happening. In fact, the rhetoric queries introduced throughout this contribution remain unanswered!

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References:
19. C. Richards, From Old to New Learning: Global Dilemmas, Exemplary Asian Contexts, and ICT as a Key to Cultural Change in Education, Globalization,


44. N. S. A. Silva, S. Rogerson and B. C. Stahl, University Challenges in Information Society, In M. Arias-Oliva et al. (Eds.), ETHICOMP 2010: The Backways, Forwards and Sideways Changes in ICT (pp. 500-511), University Roviri i Virgili, 2010.