Understanding Open Teaching: Difficulties and Key Issues.

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Abstract: - We hereby describe the outcomes of a literature review on Open Teaching as an approach to understanding a currently ambiguous and polysemic concept, which has become a growing global trend in education. Peer-reviewed papers published in the last twenty years were included, provided they were indexed in the major academic databases. The findings show that Open Teaching has been associated with various conceptions over the years and that there is no current consensus on its meaning in the academic community. They also point out that the most common ways to implement Open Teaching practices are through Open Educational Resources (OER) and Massive Open Online Courses (MOOCs)

1. Introduction

Today's educational processes take place in presence of a diverse range of challenges, both current and future, which are framed in social, economic, scientific and cultural dimensions. The foremost issue is ensuring equal access to quality education: the use of Information and Communication Technology (ICT) emerges as high potential alternative to overcome such challenges [1].

Within such framework, everyday work at educational institutions undergoes the pressure of complex issues forcing them to struggle with the continuous creation of new strategies aimed at widening and improving their educational provision [2], [3].

Immerse in a globalized and ICT-intensive environment, today's students in Education departments face an ever-changing professional landscape where fast-paced persistent evolution turns their knowledge and skills —and even educational context itself— around [4]. To worsen an already complicated situation, updates in higher education curricula occur at a slower pace than required by changes in the global education scenario [5]. Consequently, many leading-edge topics and trends are left off the teachers' training programs: such an outdated instruction scheme ends up reinforcing those hard-to-change traditional and rigid points of view that precisely oppose the current educational demands.

To break up such a vicious circle a high-impact solution is required: amongst the fastest-growing global educational trends, Open Education for Teacher Training stands out as an ICT-related practice in rapid development. Although Open Education has been known for over half a century now, today's concept is far away from its mid-twentieth-century onset [6]. Open Teaching is nowadays defined as

> [...] a process of knowledge sharing among educational stakeholders (teacher-student and student-student) that can be carried out anytime, anywhere, using freely available tools, either asynchronously or synchronously. Being open, it welcomes a

third actor in educational activity: the community, the world. Open Teaching extends formal towards informal education in a context of collaboration and interaction where learners work as peer-partners [7].

This is an emergent concept: there is no academic consensus to what "open" means in Education [8]. Hence, a literature review on the subject is required in order to present theoretical and experimental elements to the academic debate currently ongoing.

2. Method

With the aim of systematically reviewing the academic literature related to Open Education, we run searches over major databases including Scopus, ISI, Scielo and DOAJ: the search terms were Open Teaching, Open Education, and Open and Distance Education, both in English and in Spanish.

The selection criteria for the papers were:
- They explicitly mentioned Open Teaching either in the title, abstract or keyword records.
- Random selection of English and Spanish texts instead of balancing the number on each language, thus avoiding a bias due to a larger production of English papers.
- Only papers with both research findings and practical experiences were included.

A preliminary search on the databases delivered a consolidated number of 1247 potential peer-reviewed papers useful for the review. To determine the initial corpus of the review, random searches on title, abstract and keyword records were carried out to cover a twenty-year period from 1994 to 2014. Once finished that first stage, the papers were read in depth, searching for evidence of Open Teaching conceptualizations.

From the final set of papers, only 53 were selected for verification: Cohen's Kappa quotient was then calculated to be 0,821, which guarantees a reliable review based on two different raters in accordance with Sim & Wright [9] as well as Vieira, Kaymak & Sousa [10].

3. Results

The literature review on Open Teaching presents a wide and diverse range of conceptualizations. Such varied conceptions, albeit different, are not exclusive; each brings in a new element to support a comprehensive, better understanding of the phenomenon.

3.1 Open Teaching: an increasingly relevant topic

The literature review shows that 'Open Teaching' has represented different concepts over time. Some of them have endured and grown into the current meaning of the term. First and foremost, Open Teaching (OT) has long been conceived as a modality of education, as a way of teaching —not to be confused with a learning modality.

Originally, OT's features were solely conceived as pertaining to Distance Learning [11]–[14]. Currently, those features are linked to the massive incorporation of ICTs in the educational scenario. OT has won its very own development spaces that set it apart from other teaching modalities.

The review found instances of such shifting at the following sources: [15]–[24].

The results of the literature review show how an academic interest in Open Teaching —and Open Education as its context— has grown substantially over the years. We reviewed papers from 1998 to 2014: 42% of them had been issued in the last five years and only 5% came from before the end of the century. Research work on the topic only started after the year 2000. By clustering the literature in five-year periods after that, we can measure the growth rate in number of published studies and theoretical efforts: 21% between 2000 and 2004; 32% between 2005 and 2009; the foregoing 42% between 2010 and 2014.

Not only this growing scholarly interest in the topic gives way to potential further development, but also shows a significant reclaim of the Open Education concept, whose development is yet to be explored. In pursuing a deeper understanding of these ideas, we shall deal with several closely related topics, as found in literature.

3.2 Open Teaching: between flexibility and access.

As we mentioned earlier, the meaning of Open Teaching has evolved over the years. Determining the different significations it has had would lead us to a better understanding of OT as a construct.

An initial characterization of OT begets from access and flexibility. When teaching as an educational practise becomes 'open', it brings about the possibility of broadening access opportunities to formal learning spaces by managing time and location in a flexible way [1].

In the domain of education, *flexibility* means that options are given to the learner on how to learn [25]: based on your needs you may pick a set of choices for the different intervening factors to your own

training process, i.e. pick the topics, place, pace and/or method [26].

In light of the interrelation between Education and Work, *access* as a methodological dimension to any teaching approach implies that learners lacking certain economic conditions [8]or with a significant social or spatial impairment [12] will find no hindrance in entering, completing and verifying their learning process.

We found samples of the foregoing in:[12], [14], [16], [20], [21], [24].

3.3 Open Teaching: an ICT affair

An interesting outcome of the review lies in the present and direct linkage found between Open Teaching and ICTs. Notwithstanding their emerging nature, advances in ICTs have been linked to OT's developments for over a decade, primarily based on the use of Internet.

Some Internet-based tools that underpin the development of Open Teaching as educational practice include virtual classrooms, virtual learning environments, learning and content management platforms, chats, forums, mobile apps, learning communities/networks as well as social networks.

Cases in point to those tools were found in:[11], [13], [15], [27]–[32].

According to Berrocoso [33], the ultimate purpose of Open Teaching is to "get anybody in the world with an Internet connection to freely and unrestrictedly access all the scientific, academic and cultural information comprising the human knowledge with no economic, technical or legal hindrance." This renders all technological tools extremely important, particularly those granting free and open access.

3.4 Open Teaching as driving strategy in autonomous learning

As per the review findings, another way to understand Open Teaching is as a strategy aimed at creating learning: anywhere, anytime, paced to the rhythms and the communication and interaction constraints of the student; or as educational processes based upon self-management [34].

This self-driven conception of Open Teaching leads to changes not only in the teaching process itself but also in resources, communication systems, methodologies and management of educational institutions [25]. Open Teaching as a strategy is addressed by several researchers, who see in this teaching modality a methodological opportunity for transforming education. Seen from this perspective, Open Teaching provides the students with personalized attention [35], adapts to

individual workflow and gives importance to the design of quality educational materials [36].

Indeed, Open Teaching's definition deem students capable of self-steering their learning process by making their own decisions about it (Hashemi Golzar, 2006) and being independent to find a pace of their own [37], [38].

Other authors relate Open Teaching to modalities of teaching like tutored self-learning, synchronized virtual classrooms, and networked collaborative learning [39] asserting that Open Teaching inherits its basic principles from active school —Escuela Nueva— [40]. Some remark the relation between teaching in open environments and the student-centric constructivist paradigm [41], as well as the Didactic and Collaborative Learning model [42], [43].

3.5 Does Open Teaching mean teaching with Open Educational Resources?

One of the most common ways to understand Open Teaching is concerned with the use of what are known as Open Educational Resources (OER). In that sense, the literature review has shown that incorporating OERs into an educational practice seems reason enough to confer it the status of "open". Although that is a questionable assertion, literature shows it is a widely accepted idea among the academic community.

Albeit OER are indeed a closely related tool used in Open Teaching, this is conceptually broader than its deployment instruments, and it should not be conceived in a merely instrumental way. Instead, it should at least be understood as "extensive collaborative exercises involving reuse, remix, redistribution, inclusion, adaptation, free access and many other concepts and processes related to the current notion of what "open" means for education" [7].

Some examples of Open Teaching considered as OER use can be found at:[44]–[50].

3.6 MOOCs as an instantiation of Open Teaching

MOOCs (Massive Open Online Courses) as a topic have now a high impact on educational practices as a whole; they are also emerging as OT is, and they surely deserve detailed and sensible reflection in light of their relevance.

A significant number of the reviewed articles report a direct relation between Open Teaching and MOOCs, up to the point that they are considered an instantiation of OT as educational practise.

Some authors consider that said relation between MOOCs and OT is based upon their defining features of inclusion, remix, reutilization, and feedback [51], while others assert the relation is based on their common pedagogical foundation of social learning through community interaction [52] under a connectivist approach [53].

Instances of such understanding of Open Teaching's linkage to MOOCs can be found in:[54]–[60].

4. Discussion

After the analysis you have a wide variety of studies framed on the Open Teaching concept; however, each one views OT from a different angle and apply it in a different way, which makes replication and sustainability of practical results a very difficult matter. Lack of consensus within the academic community on this gives rise to practical and conceptual ambiguities in both research approach and results.

The noticeable trend to associate Open Teaching to the use of ICT entails a significant risk concerning its integrality as educational practise, by overweighting technological aspects over educational ones. Most documented experiences on Open Teaching focus on the implementation of technological tools in training processes under the principles of Open Education, subject to convergence of online tools and education offered anywhere, anytime.

Reviewed authors notice that reported educational experiences are far more aware of technological tools affecting educational processes than they are engaged in understanding Open Education as their foundational framework [61], [62]. Excessive focus on the outcomes of technological integration and its effects on educational processes obviate recognition of Open Education's scope and limits, thus shifting OE from object of study to reference framework.

Given the above, it proves urgent that educational institutions assume a position concerning said uses of OE, based on their research experiences and results, thus contributing to clarification of concepts encompassed in the topic.

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