BOOK REVIEW:

Blockchain in Education. On the limit between the real, the possible and the dreamed

Agustí Cerdan

agusti.cerdan@doctorat.cat

Universitat Oberta de Catalunya, España

Andrea Jardí

ajardi@ub.edu

Universitat de Barcelona, España

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Nowadays, Blockchain is recognized, especially in the financial world, as a new disruptive technology in the registration of events through a distributed and replicated system. Among the emblematic cases we can identify the following: Bank of England (Allison, 2015), Visa (Arnold, 2016), Santander, UBS, BNY Mellon, Deutsche Bank (Gallen, 2016). The best-known application is cryptocurrency, in particular, BitCoin. The success of Bitcoin, the most digital currency in the world, is explained by the use of a decentralized system based on tests that are registered by all users, maintaining their anonymity (Back et al, 2014; Wright & De Filippi, 2015).

This would hardly call the attention of the educators if it were not because in the last years the interest has been awakened by this technology and by its potential application in fields as diverse as the digital identity, the attention to marginal groups, the medical records and of course Education.

In 2017, the University of Nicosia became the first higher education institution in the world to certify its diplomas through Blockchain, but the best-known projects are those generated from MIT and the Open University of the UK (OU). In the MediaLab of MIT, Philipp Smith, director of Learning Innovation, develops a certification proposal registered by blockchain in an open standard: the Blockcerts. In the OU, Mike Sharples and John Domingue, both of The Knowledge Media Institute, try to create a learning registration system in the short term, using Open Badges, and generating a knowledge token.

Since then, and in the last two years, progress has been made in several lines of work. The book that we are presenting, the first in Spanish to address this issue, describes the different proposals of Blockchain applications in Education through a selection of articles by leading researchers in the field.

The book begins with the most radical proposals that come from the world of the company. Don and Alez Tapscott explain the expectations that Blockchain has generated in continuous training, as a system to register the competencies of workers and professionals.

The radical optimism of the Tapscott is better placed in the second chapter, in which Andreia Inamorato dos Santos collects an extensive study of the European Commission on the use of Blockchain in Education.

The following three chapters describe the three mentioned experiences of Nicosia, MIT and Open University in the hands of those who starred them. Natalia Smolenski and Kim Duffy analyze in more detail the Blockcerts, a key element that emerges from the MIT and that is likely to transform, if the emergence of another alternative initiative or more powerful, on the basis of future certifications to obtain through block chains.

As with most innovations and technologies that become a trend, and considering that the use of Blockchain in Education is just beginning, we will probably see new and continuous implementations of it. Each field that requires the registration of events, finds in the Blockchain a system that will potentially help transparency and, simultaneously, respect for privacy, as well as an interesting facet of disintermediation. In this regard, the book includes some of these new proposals. Marcelo Leao, from Brazil, analyzes his applications in university management. Bartolomé, Lindín and Rivera-Vargas, from the University of Barcelona, explain the project of individualization of learning itineraries in university teaching.

Finally, the work is completed with two interesting chapters that give counterpoint through a critical vision. The analysis, eminently ideological, of Audrey Watters and the most complete of Adell and Bellver show some limitations and tasks to be solved with the implementation of Blockchain in education.

Beyond these reflections and experiences analyzed and incorporated into the book, Blockchain is still a little-known technology in the world of education. In fact, for many educators, it is still something far away. It is a situation similar to that which occurred in the early nineties with the use of the web in higher education. When they began in North America to offer courses and teaching materials through it, in the Spanish-speaking world the universities did not even have an institutional website. Also, when they finally did it, they turned it into little more than a system for storing and sending pdf files, or an alternative to CD-ROM. It took ten years for the Ibero-American universities to finally take the Web seriously. In that intermediate, the weight of the innovation fell essentially on some academics and research groups, who were aware of the changes and possibilities that its use could entail.

Today something similar could happen with block chains, Blockchain. For the same reason, this book tries to help correct the level of ignorance that exists in the academic world about its possibilities and limits. But, although focused on university studies, it may also be helpful for other educational levels that in a few years will probably also come. As the authors say: This text hopes to help to better understand this technology and its possibilities in Education. And perhaps encourage to investigate better how to take advantage of it to improve our

teaching activity and the learning of our students. It is a 21st century book on the border between the real, the possible and the dreamed.

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