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MOOCS IN BUSINESS ADMINISTRATION – AN OVERVIEW OF ASSESSMENT PRACTICE

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ABSTRACT

The study explores 31 MOOCs in the field of business administration, equipped with a conceptual framework documenting 18 facets of assessment design. As a second step, the data collected on 3 MOOCs about assessment is submitted to university members in charge of external courses accreditation procedures in order to ascertain its possible influence on their decision to credit a MOOC or not. Main results indicate that, a) the typical profile of the assessment procedure for MOOCs in business administration is: QCM-based, automatic, continuous, individual, product-centred, standardized, b) secure ways (proctoring, test-centres) to warrant learners' identity for the tests can already be found in some MOOCs of this field, and c) concerns of course accreditors bear first and foremost on these student authentication aspects.

INTRODUCTION – A FOCUS ON ASSESSMENT PRACTICE

As MOOCs (Massive Open Online Courses) continue to spread (Shah, 2015), calls for detailed pedagogical research on this instructional format have been issued (Bali, 2014; Toven-Lindsey, Rhoads, & Berdan Lozano, 2015; Hayes, 2015). They are sharply summarized by Margaryan, Bianco, and Littlejohn (2015, p. 83): “Existing evaluation frameworks focus on learners’ opinions and experiences of learning, but tend to disregard instructional design quality, which is an important variable in the overall quality of a course. (...) Even though MOOCs are still in the experimental phase, they would benefit from the application of instructional design

principles". The increasing availability of MOOCs also commands and allows research in specific disciplines. This paper locates at the crossroad of these two trends. It presents a focused investigation on assessment procedures as practiced in MOOCs (Bates, 2014; Cisel, 2013a) in the specific content-domain of business administration. This centration on assessment practice draws itself on two reasons. On the one-hand, this aspect of instructional design has not retained much attention so far, even in Margaryan et al.'s (2015) extensive analysis of 76 MOOCs according to the "MOOC-scan", an instrument derived from Merrill's (2013) instructional quality principles. On the other hand, the choice of MOOCs' assessment practice as an object of research stems from practical concerns. Yet, it is very likely that, in the near future, the authorities of the Liège Business School (HEC) will face a growing number of students' requests to be credited for MOOCs they have completed. It appeared worthwhile to anticipate by investigating the ins and outs of assessment in MOOCs in business administration and by looking at how academic accreditors think through this upcoming trend (Chauhan, 2014). Hence, two research questions guided this study:

- how does assessment practice present in MOOCs in business administration?
- does an accurate account of these assessment practice have any value for persons in charge of validating student participation in MOOCs and possibly transforming it into "transcriptable" academic credit (Sandeem, 2013)?

METHODOLOGY

The methodology of this research articulates an observational approach of assessment practice in business administration MOOCs and the presentation of its results to accreditors, in order to ascertain whether accurate information on assessment procedures can have an influence in their decision of validating a student's attendance to a MOOC as credits.

Data sources

Data related to assessment practice was collected in an opportunity sample of 31 MOOCs (Appendix I) available during the six-month period dedicated to the research (January - June 2015). The first author enrolled in these MOOCs and carried out a systematic examination of all their assessment of/for learning instances. The researcher reported her observations in the "Assessment Prism" framework (see below). With regard to the gathering of authorities' views, 2 faculty and one administrator regularly involved in accreditation boards were invited to a 30-min interview. They were presented the syllabus and the assessment modalities of 3 MOOCs from the sample and were asked whether, on this basis, they would grant the credit, and for what reasons.

Instruments

The instrument used to inspect the MOOCs is called the “Assessment Prism”. Documented and illustrated in 3 main documents (Leclercq, 2006; Leclercq & Poumay, 2005; Verpoorten & Dupont, 2007), it presents as a conceptual framework qualifying 18 “facets” of assessment design (Fig. 1). Most of these facets are refined into two “dimensions”. For instance, the facet “Focus” (of the assessment) splits in the dimensions “processes” and “products” as instructors can decide to address the first or the second or both in their assessment actions. The facet “target” (of the assessment) is another illustration. It materialises in the dimensions “individual” and “group” as an assessment procedure can be designed towards a single student and/or a group of students.

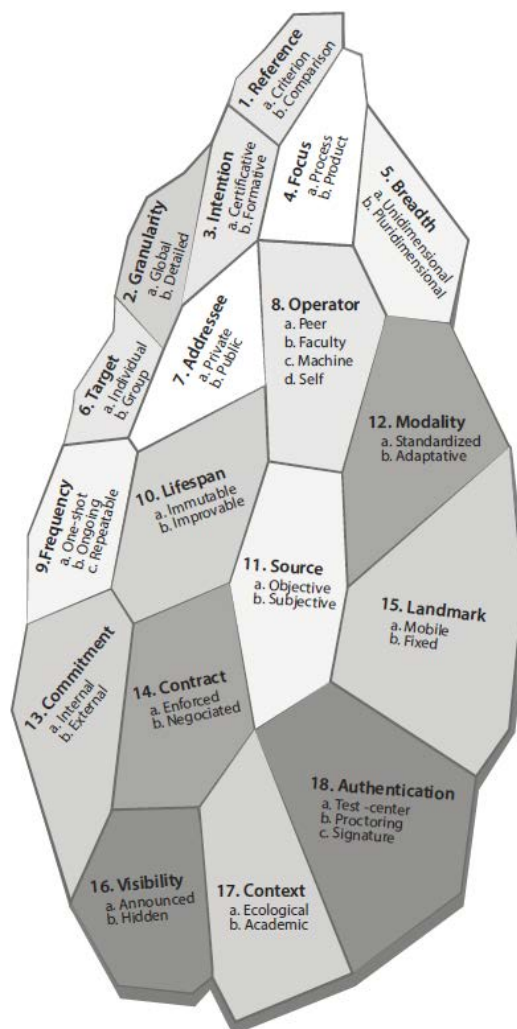


Figure 1 – The Assessment Prism

By establishing 18 facets, the framework offers a comprehensive and structured approach useful to describe assessment procedures that any MOOC (or regular course) implements and to spot assessment trends in a sample of MOOCs. In all cases, the prism helps to make instructors' pedagogical choices appear¹. The prism metaphor has been favoured because the quantitative/qualitative picture of an assessment episode can greatly vary according to the facets through which performances are observed (measured and judged). As for the second part of the research, the 3 accreditors were asked to examine in detail, prior to the interview, the descriptive file of 3 MOOCs. The file included the request letter from a fictive student to be credited for its participation, the MOOCs' syllabus, and the main characteristics of the MOOCs assessment procedures, as found during the observation phase. The interviewer asked interviewees to issue their decision in terms of "yes/no credit" and their reasons for it. The conversation transcripts were analysed and compared in order to identify the rationale underpinning either a credit approval or refusal. As the researchers anticipated the importance of the facet "authentication", the 3 submitted MOOCs were selected in order to offer 3 contrasted types of final assessment: a) in M1, identity control was

¹ Up to now, the "Assessment Prism" has only been released in French. The Earli Conference 2015 provided a first opportunity to work it out in English. In order to secure the translation as much as possible, a comparative analysis was conducted upstream between three versions of the framework, presenting convergent but not identical stances, vocabulary, illustrations, and elaboration levels. It must be noted that one version (Leclercq & Poumay, 2005) relates the Assessment Prism to a conceptual model – ETIC-PRAD – concerned with 8 assessment validity dimensions (ecologic, theoretical, informative, consequential, predictive, reliability, acceptability, deontology). Two versions (Leclercq, 2006; Verpoorten & Dupont, 2007) also suggest an overarching conceptual layer encapsulating the facets and based on questions (who, what, why, how of assessment) and/or keywords (agents, tempos, methods, etc.). Albeit interesting, none of those extensions have been kept here due to the additional complexities they bring about. Although faithful to a large extent to the initial documents, the version used in this paper has as its key purpose to make the prism as much operational as possible for the observation of the 31 MOOCs. In this respect, the framework was also complemented with the facet "Authentication" (related to learners' identity control), a strong concern in MOOCs that was not present in the initial framework, designed before the emergence of this instructional format.

performed in an authorized local test-centre (Pearson VUE, 2015), b) in M2, through online proctoring (Negria, 2014), c) in M3, through a combination of profile picture (coupled with a biometric comparison with ID card) and personal keystroke dynamics analysis (MOOCs' Directory, 2014).

RESULTS

Scanning the 31 MOOCs with the Assessment Prism framework discloses the following trends (for detailed results, see Appendix II):

- To a large extent (29 to 31 instances), MOOCs in business administration present assessment procedures that are: a) based on non-negotiated (facet 14), objective (that is, here, MCQ-based, facet 11) and announced (facet 16) criteria (facet 1), b) certificative (facet 3) c) focused on individual (and not collective) performance (facet 6) and on learning products (and not processes, facet 4), d) conducive of global and detailed feedback (facet 2), e) automatic (facet 8), f) ongoing (facet 9), and g) not released (results) publicly (facet 7),
- Automatic assessment (facet 8) can be complemented by peer-assessment (9/31) and by self-assessment (5/31). Complex (facet 11, 12/31) and ecological (facet 17) performance can also be assigned to students besides traditional academic MCQ.
- The dominant authentication process is the signature track but identity control through proctoring (2/31) and test-centre (2/31) have also been found.

The interviews with the administrative and academic exemption board deliver the following observations:

- When dealing with a MOOC, the accreditors operate as with a regular external course: they check whether the syllabus is compatible with a course delivered in their institution. If it is judged compatible enough, the course is submitted to the faculty in charge of the course, who takes the decision of equivalence or not. However, in the case of MOOCs, authentication issues comes in the way of this normal process. Accreditors refuse to go further when the identity is only controlled through signature track. The possibility of cheating the system with this method induces an immediate rejection of the credit request.
- When told that identity control can be certified through a test-centre or proctoring, accreditors accept to check the compatibility. It would therefore be theoretically possible for a MOOC to be considered as an alternative to regular course in the institution.
- When provided with the overview of assessment practice (facets 1-17) in the MOOCs, accreditors judge them interesting but not decisive.

DISCUSSION

Along with the learning goals and the learning methods, assessment is a major component of Leclercq's triangle (Castaigne, Petit, & Verpoorten, 2007) or constructive alignment (Biggs, 1996). The study aimed at documenting this component with a dedicated conceptual framework. This effort resulted in a snapshot of the current situation in 31 MOOCs in business administration.

A first observation is that MOOCs have largely been caught up with by assessment, which was not an initial concern of this movement (Downes, 2013). Although the seminal role of MOOCs was to instruct and not to certify (Belleflamme & Jacqmin, 2014), the delivery of a certificate and the procedures to warrant identities show that MOOCs have eventually embraced the very traditional concerns of any university course and context.

A second observation is that MOOCs favour in general quite common ways to assess. Tests are individual, standardized, largely anchored in automatic MCQ and feedback, even though some alternatives do appear in 9 MOOCs (assessment of a case study in M25, an elevator pitch in M5, a business plan in M4, a concept map in M15, a video in M11, a functional analysis in M27, etc.). It is not impossible that the development of AES (machine-automatic scoring) contributes to intensify this diversification of assessment procedures (Balfour, 2013; Markoff, 2013). Automatic assessment of programming assignments in computer sciences opens also promising avenues. These innovations are likely to boost the adoption of application exercises, in addition to plain questions and checks for knowledge and understanding (Ala-Mutka, 2005; Pieterse, 2013).

A third observation is that MOOCs foster repeatable (fact 9) and improvable (facet 10) assessment episodes. Suleman (2008) grants these iterative actions a positive impact on learning where Douce, Linvingstone, and Orwell (2005) suspect adverse effects: less effort from the student to elaborate right from the start a comprehensive reflection. More research work is needed about these opposite interesting effects.

A fourth observation is that a range of MOOCs have fruitfully incorporated the principles of formative assessment (12/31, facet 3). Automatic feedback is usually provided on this occasion. However, it is worth noting that this feedback is only retroactive (ex post). Doing so, MOOCs do not apply so far the two other modes of regulation: proactive and interactive (Allal, 1988).

CONCLUSION

This research analysed the assessment practice in 31 MOOCs in business administration and asked accreditors whether such a review would allow them to deal with MOOCs as “normal courses” in the accreditation processes. The first contribution of this work is methodological as it exhibits a systematic application of the Assessment Prism framework in the innovative context of MOOCs deployment. Its second contribution is disciplinary as the research enlighten the state-of-the-art for assessment practice in MOOCs in business administration. By providing a better identification of current strengths, weaknesses and potential of assessment practice in MOOCs, this work intends to benefit both to researchers committed to this new type of instructional resource and to instructional designers in charge of MOOCs implementation. As facet 18 “Authentication” pinpoints assessment practice that have different prices² for the students and institutions, economists (Cisel, 2013b; Parr, 2015) in the domain of higher education might also find relevance in this research.

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² As for Proctoring, students pay on average 100 EUR while the institution pays on average 23 EUR per student. With regard to Test-Centre: students pay on average 200 EUR while the institution pays on average 60 EUR per student. Regarding Signature track: students pay on average 43 EUR.

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APPENDIX I

ID, MOOC's title, institution, and platform of the 31 MOOCs reviewed in the business administration field. In bold face: the 3 MOOCs submitted to the accreditators

- M1, Du manager au leader 2.0, CNAM, FUN.
- M2, Gestion de crise, Université Panthéon-Assas Paris II, FUN.
- M3, Management de la force de vente, Université de Montpellier, FUN.
- M4, Entrepreneurship 101: Who is your customer?, MIT, Edx.
- M5, Entrepreneurship 102: What can you do for your customer?, MIT, Edx.
- M6, Innovation and Commercialization, MIT, Edx.
- M7, Networks, Crowds, and Markets, Cornell, Edx.
- M8, Introduction to Global Hospitality Management, Cornell, Edx.
- **M9, Innovation for Entrepreneurs: From Idea to Marketplace, University of Maryland, Coursera.**
- M10, Modèles de regression, Johns Hopkins University, Coursera.
- M11, Devenir entrepreneur du changement, HEC-Paris, Coursera.
- M12, Introduction to Marketing, Université de Pennsylvanie, Coursera.
- M13, How to Build a Startup, Steve Blakn, Udacity.
- **M14, Understanding Modern Business And Organisations, University of Strathclyde Business School, Future Learn.**
- **M15, Gestion de projet, Centrale Lille, Site Centrale Lille.**
- M16, Gestión Empresarial Exitosa para Pymes, Pontificia Universidad Católica de Chile, Coursera.
- M17, The Power of Microeconomics: Economic Principles in the Real World!, University of California, Irvine, Coursera.
- M18, Entrepreneurial Strategic Management, The university of New Mexico, Coursera.
- M19, Introduction to Financial Accounting, Wharton university Pennsylvania, Coursera.
- M20, Introduction to Corporate Finance, Wharton university of Pennsylvania, Coursera.
- M21, Le marketing dans le monde numérique, Université de l'Illinois, Coursera.
- M22, Fundamentals of Management, University of California, Irvine, Coursera.
- M23, The Power of Macroeconomics: Economic Principles in the Real World, University of California, Irvine, Coursera.
- M24, The Art of Negotiation, University of California, Irvine, Coursera.
- M25, Foundations of Business Strategy, University of Virginia, Coursera.
- M26, Essentials of Entrepreneurship: Thinking & Action, University of California, Coursera.
- M27, Digital Analytics for Marketing, University of Illinois at Urbana- Champaign, Coursera.
- M28, Managing Your Money: MBA Insights for Undergraduates, University of California, Irvine, Coursera.
- M29, Introduction to Operations Management, Wharton university of Pennsylvania, Coursera.
- M30, Negociación exitosa: Estrategias y habilidades esenciales, University of Michigan, Coursera.
- M31, Les principes de la finance, Université catholique de Louvain, Edx.

APPENDIX II

The Assessment Prism framework is made of 18 facets (column 1), refined in at least two dimensions (column 2). Column 3 gives a definition of each dimension. Column 4 gives the MOOCs wherein each dimension could be observed as a concrete assessment practice. Most of the references come from Leclercq (2006).

Facets	Dimensions	Definition – The assessment...	MOOCs
1.Reference (Sluijsmans, 2008, p. 10-12)	a. criterion	... measures the individual performance according to criteria (criterion referenced test, Glaser, 1963)	All
	b. comparison	... measures the individual performance against a group (mean score, ranking, etc.)	None
2.Granularity	a. global (de Landsheere, 1979, p. 115)	... is summed up in one single mark	All but M13
	b. detailed	... is broken down into sub-scores so that learners can distinguish strengths and weaknesses	All but M30
3.Intention	a. certificative (assessment of learning)	... leads to a decision (the student is admitted, the student gets the degree, etc.)	All but M13
	b. (in)Formative (assessment for learning) (De Landsheere, 1979, p.113)	... indicates a position on the way towards the ultimate learning objectives	12 (1, 4, 6, 12, 13, 14, 15, 21, 25, 27, 29, 31)
4.Focus	a. process	... measures aspects of the learning process	None
	b. product	... measures the result of the learning process	All
5.Breadth	a. unidimensional	... takes into consideration one dimension of students' performance (good answers)	21 (1, 2, 3, 7, 8, 9, 12, 13, 14, 16, 17, 19, 20, 22, 23, 24, 26, 28, 29, 30, 31)
	b. pluridimensional (Leclercq, 1982)	... takes into consideration more than one dimensions of students' performance (good answers+confidence degree+speed, etc.)	10 (4, 5, 6, 9, 10, 11, 15, 21, 25, 27)
6.Target	a. individual	... rates the performance of one learner	All
	b. group	... rates the performance of a group	None
7.Addressee	a. confidential	... makes the results available to the learner only	All but M15
	b. public	... makes the results public	1 (15)
8.Operator	a. faculty	... is performed by an instructor	2 (14, 15)
	b. peer (Kulkarni et al., 2013)	... is performed by a fellow-student	9 (5, 6, 10, 11, 14, 15, 21, 25, 27)

	c. self (Verpoorten, Westera, & Specht, 2011)	... allows learners to measure their own performance	5 (4, 5, 6, 11,15)
	d. machine (Malmi, Korhonen, & Saikkonen, 2002).	... is performed automatically	All but M5
9.Frequency	a.one-shot	... is stand-alone and not combined with other assessment episodes	2 (13, 30)
	b. ongoing	... is combined with other assessment episodes for an overall appreciation	All but M 13/18
	c. repeatable	... is always identical and can be taken several times	21 (4, 6, 8, 9, 10, 12, 1314, 15, 16, 17, 19, 20, 21, 23, 25, 27, 28, 29, 30, 31)
10.Lifespan	a. immutable	... provides results that that cannot be modified anymore	10 (1, 2, 3, 5, 7, 11, 18, 22, 24, 26)
	b. improvable	... enables learners to submit several performance iterations to improve	21 (4, 6, 8, 9, 10, 12, 14, 15, 16, 17,18,19, 20, 21, 23, 25, 27, 28, 29, 30, 31)
11.Source	a. objective	... gives the same result regardless of the operator(s) identity (QCM for instance)	All
	b. subjective	... is based on the subjective judgment of the operator(s) (portfolios for instance)	12 (4, 5, 6, 10, 11, 14, 13, 15, 18, 21, 25, 27)
12.Modality	a. standardized	... puts learners in the same exam conditions (questions, time, place, etc.)	None
	b. adaptive	... tailors exam conditions to learners' choice	All
13.commitment	a. internal	... is performed by assessors who were involved in the training process	All
	b. external	... is performed by assessors external to the training process	None
14.Contract	a. enforced	... is imposed "top-down" to all students	All
	b. negotiated	... presents aspects that can be negotiated between instructors and students	None
15.Landmark	a. mobile	... defines a performance that varies according to learners' level	1 (15)
	b. fixed	... defines a performance identical to all learners but weights its components according to learners' level (Leclercq & Van der Vleuten, 1998)	All but M15
16.Visibility	a. announced	... makes its criteria explicit to the students prior to the performance	All
	b. hidden	... does not give students the criteria on which their performance will be rated ("do your best")	None
17.Context	a. ecological (Brunswick, 1943)	... favours an authentic performance (close to the future professional	11 (5, 6, 7, 11, 15, 19, 20, 21, 25, 27, 31)

		situation)	
	b. academic	... favours a traditional scholarly performance	18 (1, 2, 3, 4, 8, 9, 10, 12, 13, 14, 16, 17, 18, 22, 26, 28, 29, 30)
18.Authentication	a. signature track	... checks assessee's identity through biometric procedures (typing pattern, picture comparisons)	25 (4, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31)
	b. test-centre	... sends learners to a certified local centre where they will pass the exam	2 (14,15)
	c. proctoring	... allows a distance exam but under real-time control	1 (15)
	d. no check	... does not set any authentication process	4 (1, 2, 3, 13)