

ASSESSING A B-LEARNING TEACHING APPROACH AND STUDENTS' LEARNING PREFERENCES IN HIGHER EDUCATION

Teresa Cardoso¹, Filomena Pestana², João Aragão e Pina³

¹*Universidade Aberta, Open University Portugal; LE@D, Laboratório de Educação a Distância e Elearning (PORTUGAL)*

²*LE@D, Laboratório de Educação a Distância e Elearning, Universidade Aberta, Open University Portugal (PORTUGAL)*

³*ISCTE-IUL, Instituto Universitário de Lisboa (PORTUGAL)*

Abstract

Distance learning has been gaining ground in higher education institutions, particularly in the context of blended learning, forcing institutions and teachers to confront new challenges in the teaching / learning process [1] [2] [3] [4]. This trend has been increasing in the world [5] [6], namely in the United States [1] [7] and in Europe [8] [9] [6] [10].

Blended learning, or simply b-learning, has been associated with the reduction of costs and efficiency [11] [3]. According to several authors, it enables to combine face-to-face and online distance modalities (elearning or mlearning), so it is said to be the better of both worlds [12] [13] [14]. It also allows to enhance greater space-time flexibility, and when properly implemented allows the acquisition of meaningful learning, centered on student autonomy, which, among other aspects, takes into account different learning styles/preferences.

Therefore, blended-learning can inspire course curriculum design, including updating former face-to-face pedagogical offers in order to meet the blended or hybrid principles and delivery. Bearing in mind this teaching / learning specific scenario, we developed two surveys to assess such a new teaching approach and the students' preferences, in two different moments – at the beginning and at the end of a higher education unit course. Hence, in this text, we will present those surveys, as well as their theoretical and methodological framework. Both surveys have already been validated and tested, and preliminary data analysis is being developed.

We expect this pedagogical approach can contribute to sustain the assessment of teaching practices towards students' learning preferences, and the choice of adequate technologies to fit those preferences. Ultimately, we expect the results can shed light for further research, so as to improve the development of blended-learning course curriculum design in higher education.

Keywords: Blended-learning, Higher Education, Teaching, Students' learning preferences, Survey

1 INTRODUCTION

Distance learning has been gaining ground in higher education institutions, particularly in the context of blended learning, forcing institutions and teachers to confront new challenges in the teaching / learning process [1] [2] [3] [4]. This trend has been increasing in the world [5] [6], namely in the United States [1] [7] and in Europe [8] [9] [6] [10].

Blended learning, or simply b-learning, has been associated with the reduction of costs and efficiency [11] [3]. According to several authors, it enables to combine face-to-face and online distance modalities (elearning or mlearning), so it is said to be the better of both worlds [12] [13] [14]. It also allows to enhance greater space-time flexibility, and when properly implemented allows the acquisition of meaningful learning, centered on student autonomy, which, among other aspects, takes into account different learning styles/preferences.

However, the definition of the concept of blended learning is not consensual, emerging, in a broad sense, as a dynamic process that is often organic and context-specific [15]. Following the perspective of several other authors, we can quote [16], for whom "blended learning is the effective combination of different modes of delivery, models of teaching and styles of learning". [5], [17] and [18] also highlight the learning styles. In the words of [19] it is associated with "a pedagogy that places the primary responsibility of learning in the student". For [20], "Blending is an art that has been practiced by inspirational teachers for centuries" and that "adds extra dimensions to learning".

As [20] or [10] recognize, the concept can combine face-to-face sessions with remote sessions or only remote sessions. But for [21], "it represents much more than the integration of in-presence and non-presence moments [...] it must be understood as a dynamic strategy that involves different approaches and pedagogical models, different technologies and different learning spaces (formal and non-formal)". For these authors, blended learning can also be accomplished only with distance sessions, in this case, in what they call blended (e)learning.

For [22], the concept integrates still another feature, thus, "blended learning is the mix of learning material such as face-to-face, online, technologies and print bases that allow the students to be engaged with the content of course". [23] state that, with this modality, the "students gain access and flexibility with regard to at least one of the following dimensions: time, place, pace, learning style, content, assessment or learning path".

Therefore, blended-learning can inspire course curriculum design, including updating former face-to-face pedagogical offers in order to meet the blended or hybrid principles and delivery. Bearing in mind this teaching / learning specific scenario, we developed two surveys to assess such a new teaching approach and the students' preferences, in two different moments – at the beginning and at the end of a higher education unit course. Hence, in the following section, we will present those surveys.

2 METHODOLOGY

Our research is aimed at assessing a b-learning teaching approach and the students' learning preferences in higher education within this hybrid modality, namely (and at this initial phase) in the curricular unit "Professional Presentations". This curricular unit was delivered at the ISCTE-IUL (Portugal), "a public university established in 1972" [24]. Moreover, in the second semester of the 2018/2019 academic year, it was delivered for the first time in blended learning, by a different team of teachers, in different graduation/post-graduation programs.

For that purpose, and bearing in mind that teaching/learning specific scenario, as previously mentioned, we developed two surveys, as also said to assess such a new teaching approach and the students' preferences, in two different moments – at the beginning and at the end of that unit course. We support the development of those surveys in a set of studies in which it was sought to identify similar topics.

As a prior remark, it is important to mention that many studies relate the satisfaction of a course in the modality of blended learning to the final grades students obtain, at the end of their formal learning / curricular path, in a given course unit/program [25] and [4]. In this context, [5] conclude that the

"Results from the comparison studies suggest generally that online courses are at least comparable to classroom-based courses in achieving desired learning outcomes, while there is divergence in findings of comparisons on other course aspects. Collectively, the range of untested conceptual frameworks, the lack of discipline-specific theories, and the relative absence of a critical mass of researchers focused on the topic suggest ample opportunities for [...] scholars seeking to enter this research community"

Hence, we assumed as a major goal in our study to contribute to fill the existing gap in the b-learning research domain (cf. the absence referred to in the previous paragraph), centering our surveys in two main topics, i.e. assessing both the teaching/learning modality and the students' learning preferences. In this text, we will present only the common questions in the two surveys that we have developed, with regard to those two topics (see Figure 1 and Figure 2 represented afterwards, in which the questions of the survey 2 are highlighted in bold). Both surveys have already been validated and tested.

Survey 1 (S01) and Survey 2 (S02) also have in common the informed consent for participating in the study, as well as the characterization of the students' profile (e.g. age and program in which they are enrolled in). On the contrary, surveys 1 and 2 differ in the total amount of questions (27 in the former and 19 in the latter). This difference in the number of questions (Q) can be explained by the fact that some aspects are only possible to be accessed before the implementation of a certain pedagogical strategy or approach, as was the case in the delivering of the "Professional Presentations" unit. For instance, it only made sense to question the students about a prior learning experience in the blended learning modality at the beginning of the unit course (UC) – S01#Q09. Excluding the UC of Professional Presentations that you are now going to attend, how many courses or curricular units

have you already attended in the b-learning mode? This is an example of a closed-ended question, the majority in both surveys. Nevertheless, we did also considered open-ended questions.

S01#Q10. How many hours do you expect to dedicate to this Unit Course (UC), excluding the face-to-face classes? ____
 S02#Q10. How many hours have you dedicated to this Unit Course (UC), excluding the face-to-face classes? ____

S01#Q11. The introduction of the b-learning component in this UC, what main advantages can it bring to you?
 S02#Q11. The introduction of the b-learning component in this UC, what main advantages did it bring to you?
 •
 •

S01#Q12. The introduction of the b-learning component in this UC, what main disadvantages can it bring to you?
 S02#Q12. The introduction of the b-learning component in this UC, what main disadvantages did it bring to you?
 •
 •

S01#Q13. What percentage of content do you expect to be made available online?
 S02#Q13. What percentage of content was made available online?
 0% 1 a 29% 30 a 79% 80% ou mais

S01#Q14. Among the aspects listed below, select the one that you consider to be the greatest benefit of a UC in b-learning. Choose only one answer.
 S02#Q14. Among the aspects listed below, select the one that you consider to be the greatest benefit of a UC in b-learning. Choose only one answer.

- Provide alternative learning opportunities.
- Offer distance learning to a large number of individuals.
- Promote more student involvement.
- Contribute to increasing the academic performance.
- Contribute to increase the size of the classroom.
- Decrease costs.
- Other:

S01#Q15. In your opinion, the biggest benefit of the technological model in b-learning is: (choose only one answer).
 S02#Q15. In your opinion, the biggest benefit of the technological model in b-learning is: (choose only one answer).

- Measure how students use digital materials.
- Increase closeness between students and instructors/teachers/facilitators.
- Consolidation the efforts of the institution/department/college.
- Decrease the costs in general.
- Other:

S01#Q16. Please indicate your level of agreement with the following statements.
 S02#Q16. Please indicate your level of agreement with the following statements.

Use the scale between 1 (Totally Disagree) to 7 (Totally Agree)

A program/course in b-learning...	1	2	3	4	5	6	7
... is a dynamic modality of teaching-learning.							
... is a more effective teaching-learning modality.							
... is a more efficient teaching-learning modality.							
... is a more demanding teaching-learning modality.							
... involves different technologies.							
... involves different teaching methodologies.							
... involves different spaces of learning.							
... combines face-to-face and non-face-to-face moments.							
... increases the interaction between teacher and student.							
... increases student collaboration.							
... increases the workload for the student.							
... increases the workload for the teacher.							
... increases the workload for both the student and the teacher.							
... encourages autonomous work.							
... encourages collaborative work.							
... combines synchronous and asynchronous moments of communication.							
... enables to manage the time to perform the tasks of the UC.							
... enables to choose the space where I perform the tasks of the CU.							
... has more credibility than if it was delivered in other formats.							
... is more advantageous than if it was delivered in other formats.							

Figure 1. Questions on the teaching/learning modality (S01 and S02).

S01#Q19. What type of resources do you prefer? Choose only one.
S02#Q19. What type of resources do you prefer? Choose only one.
 I prefer resources that mainly focus on visual elements, that is, with images or representations in graphics.
 I prefer resources that mainly focus on audio elements, that is, with sounds or music.
 I prefer resources that focus mainly on textual elements, that is, that appeal to reading and/or writing.
 I prefer resources that mainly focus on simulation elements, that is, demonstrations, videos or movies.

[...]

S01#Q22. What type of classes do you prefer?
S02#Q22. What type of classes do you prefer?
 Face-to-face Non face-to-face Blended/Hybrid

[...]

S01#Q24. Please indicate your level of agreement with the following statements.
S02#Q24. Please indicate your level of agreement with the following statements.
 Use the scale between 1 (Totally Disagree) to 7 (Totally Agree)

I am a good user of the following programs/applications.

	1	3	4	5	6	7	Do not know	Never used
PowerPoint								
Prezi								
Powtoon								
Keynote								
Video editing								
Image editing								
Audio editing								
Social networks								

Figure 2. Questions on the learning preferences (S01 and S02).

3 RESULTS

Since the unit course is being offered as an intensive module, with a different calendar, according to the different programs involved, we are still implementing the surveys, to students of different classes. Therefore, we are still in the process of collecting and organizing data. However, we have already started a preliminary data analysis that will ultimately elucidate the following topics, among others: the assessment of the degree of familiarity with the blended-learning modality, the assessment of the degree of satisfaction with the blended-learning modality, the understanding of what motivates students in their individual learning process, and the understanding of what motivates students in their collaborative learning process. We intend to compare these topics within the students of a same class, and between students of the different classes enrolled, in two different moments, as previously mentioned, in the beginning and at the end of the unit course. These comparisons will certainly provide important contributions for the development of a key research area, as blended learning has come to be considered as a didactic response that meets the needs that the new paradigms in education demand.

4 CONCLUSIONS

In this text, we have presented an overview of the concept of blended learning, which we will be further analysing in the future. Then, we focused on the essence of a survey specifically developed to assess a b-learning teaching approach implemented for the first time in a graduation and post-graduation unit course, and the students' learning preferences, in higher education. The survey is theoretically framed by a state-of-the-art, which is in turn based on a knowledge mapping and synthesis on the blended learning concept and its principles, in different scientific fields. This feature will make it possible to further compare the results in the coming future among students of different scientific course programs.

The survey is meant to be applied at the beginning and the end of that (or any other) unit course delivered in the blended learning modality. Thus, in fact, it is materialized in two surveys, to be applied in those two distinct moments, namely, as we recall, at the start and at the end of a given b-learning curricular path.

As an anticipation of the data analysis withdrawn from the obtained results, still an ongoing process, we expect that the introduction of this b-learning pedagogical approach in the unit course of "Professional Presentations" can contribute to sustain the assessment of teaching practices towards students' learning preferences, and the choice of adequate technologies to fit those preferences, not only in ISCTE-IUL but also in other university institutions. Ultimately, we expect the results can shed light for further research, so as to improve the development of blended-learning course curriculum design in (higher) education.

ACKNOWLEDGEMENTS

Mobile Learning in Higher Education (MINE) Project 2016-1-AT01-KA203-016784.

Pro-rector for Pedagogical Innovation and Elearning, Open University Portugal.

REFERENCES

- [1] T. Crews, J. Butterfield. Data for Flipped Classroom Design: Using Student Feedback to Identify the Best Components from Online and Face-to-Face Classes. *Higher Education Studies*, 4(3), 38-47, 2014. DOI:10.5539/hes.v4n3p38
- [2] R. Garrison, H. Kanuka. Blended Learning: Uncovering Its Transformative Potential in Higher Education. *The Internet and Higher Education* 7(2), 95-103, 2004. DOI: 10.1016/j.iheduc.2004.02.001
- [3] D. Thurab-Nkhosi. Implementing a Blended/Online Learning Policy on a Face-to-Face Campus: Perspectives of Administrators and Implications for Change. *Journal of Learning for Development*, 5(2), 133-147, 2018.
- [4] T. Weldy. Traditional, Blended, or Online: Business Student Preferences and Experience with Different Course Formats. *E-Journal of Business Education and Scholarship of Teaching*, 12(2), 55-62. ISSN: EISSN-1835-9132, 2018.
- [5] J. Arbaugh, M. Godfrey, M. Johnson, B. Pollack, B. Narendran, W. Wresch (2009). Research in online and blended learning in the business disciplines. Key findings and possible future directions. *Internet and Higher Education*, 12, 71-87, 2009. DOI:10.1016/j.iheduc.2009.06.006
- [6] A. Hilliard. Global Blended Learning Practices for Teaching and Learning, Leadership and Professional Development. *Journal of International Education Research*, 11(3), 179-188, 2015. ISSN-2158-0979
- [7] L. Gurley. Educators' Preparation to Teach, Perceived Teaching Presence, and Perceived Teaching Presence Behaviors in Blended and Online Learning Environments. *Online Learning*, 22(2), 2018. DOI:10.24059/olj.v22i2.1255
- [8] F. Arcos, P. Ortega. Building a Framework for an English Language Course in an LMS with SCORM Compliant Learning Objects and Activities. In F. Lazarinis, S. Green, H. Pearson, *Handbook of Research on E-learning Standards and Interoperability: Frameworks and Issues*, 228-245, 2011. United States of America: IGI Global.
- [9] J. Fernandes. Definição do conceito de blended learning. Proposta metodológica no quadro da terminologia de base conceptual. Tese de Doutoramento - FCSH - Universidade Nova de Lisboa, 2015.
- [10] P. Peres. O blended-learning no contexto português do Ensino Superior: uma visão geral. *Indagatio Didactica*, 10(2), 297-316, 2018. ISSN: 1647-3582
- [11] I. Pereira, A. Figueiredo. Um contexto de aprendizagem promotor da participação dos alunos do ensino superior. *Atas do SIIE 09 - XI Simpósio Internacional de Informática Educativa*, 2009.
- [12] S. Feng. Applied Research on College Sports Blended Learning Based on Moodle Platform. *Educational Sciences: Theory & Practice*, 18(5), 1077-1086, 2018. DOI:10.12738/estp.2018.5.010
- [13] D. Otto. Using Virtual Mobility and Digital Storytelling in Blended Learning: Analysing Students' Experiences. *Turkish Online Journal of Distance Education*, 19(4), 90-103, 2018.

- [14] M. Vaughan, D. Garrison. Creating cognitive presence in a blended faculty development community. *Internet and Higher Education*, (1), 1-12, 2005. DOI:10.1016/j.iheduc.2004.11.001
- [15] W. Shebansky. Blended Learning Adoption in an ESL Context: Obstacles and Guidelines. *TESL Canada Journal*, 35(1), 52-77, 2018. DOI:10.18806/tesl.v35i1.1284
- [16] C. Procter. *Blended Learning in Practice*. Salford: University of Salford, 2003. ISBN: 0902896660
- [17] D. Kaplanis. 5 Benefits of the Blended Learning Approach. 2013. <https://www.talentlms.com/blog/5-reasons-why-blended-learning-works/>
- [18] Y. Zhang. Influencing Factors of Students' Acceptance of Blended Learning Based on Cognitive Neural Network. *NeuroQuantology*, 16(5), 387-395, 2018. DOI:10.14704/nq.2018.16.5.1305.
- [19] J. Lencastre. Educação On-Line: desenhar um curso híbrido centrado no estudante. In H. Felício, C. Silva, A. Mariano, *Dimensões dos Processos Educacionais: Da Epistemologia à Profissionalidade Docente*, 209-223, 2017. Curitiba: Editora CRV.
- [20] A. Littlejohn, C. Pegler. *Preparing for Blended Learning*. London: Routledge, 2007.
- [21] A. Monteiro, J. Moreira, J. Lencastre. *Blended Learning na Sociedade Digital*. Santo Tirso: White Books, 2015.
- [22] W. Kamalluarifin, F. Aniza, H. Jayabalan, M. Saufi, N. Bakar, S. Karib. Blended Learning: Satisfaction among Accounting Students in UIN EN KSHAS. *Global Business & Management Research*, 10(3), 547-557, 2018.
- [23] C. Müller, M. Stahl, M. Alder, M. Müller. Learning Effectiveness and Students' Perceptions in a Flexible Learning Course. *European Journal of Open, Distance and e-Learning*, 21(2), 44-53, 2018. ISSN 1027-5207
- [24] <https://www.iscte-iul.pt/contents/iscteiu/about-us/341/about-iscteiu> in 08-05-2019.
- [25] M. López-Pérez, M. Pérez-López, L. Rodríguez-Ariza. Blended learning in higher education: Students' perceptions and their relation outcomes. *Computers & Education*, 56(3), 818-826, 2011. DOI:10.1016/j.compendu.2010.10.023

N.B. this is the preprint version of the paper indicated below.

T. Cardoso, F. Pestana, J. Pina (2019) ASSESSING A B-LEARNING TEACHING APPROACH AND STUDENTS' LEARNING PREFERENCES IN HIGHER EDUCATION, *EDULEARN19 Proceedings*, pp. 10007-10012.

Appears in:

EDULEARN19 Proceedings([browse](#))

Pages: 10007-10012

Publication year: 2019

ISBN: 978-84-09-12031-4

ISSN: 2340-1117

doi: 10.21125/edulearn.2019.2502

Conference name: 11th International Conference on Education and New Learning Technologies

Dates: 1-3 July, 2019

Location: Palma, Spain

<https://library.iated.org/view/CARDOSO2019ASS>

<https://library.iated.org/publications/EDULEARN19/start/1500>