# Corporate blended learning in Portugal: Current status and future directions

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## Abstract

The aim of this study is to characterize the current status of blended learning in Portugal, given that b-learning has grown exponentially in the Portuguese market over recent years. 38 organizations (representing 68% of all institutions certified to provide distance training by the Government Labour Office – DGERT -) participated in this study. The results revealed that in 2007, although the predominant instructional format in Portugal was still face-to-face training (65%), e-learning at 15% came in behind b-learning with 20%. Data also revealed that 50% of distance training department coordinators believe that b-learning produces better training outcomes than face-to-face training alone, when considering the same content and learning objectives. Furthermore, when comparing b-learning and e-learning outcomes with similar content and learning objectives, 78.1% of these coordinators declared that b-learning produces better outcomes than e-learning alone. Hence, the content analysis indicated positive perceptions with regard to the future direction of b-learning, leading to the conclusion that in the long-term, corporate b-learning training will develop considerably in this country.

## Keywords

Distance training; Blended Learning; E-learning Corporate training; Portugal

## Topics of the Paper



## Introduction

The advent of Information and Communication Technology (ICT) led to the creation of new industries and the emergence of new products and services that have steadily become more readily available to a greater number of people around the globe. Over the last decades the world has witnessed a rapid rise in the use of ICTs in most human fields of activity, which has led to important social changes.

And ICTs have had a particularly strong impact on one specific area: that of training and education with the development of distance learning courses in which computers, fiber-optic cables and electronic networks play a central role (Rosenberg, 2001; Friedman, 2007). By combining all of these technologies, electronic learning (e-learning) has been able to flourish in the corporate training market because it offers customers more flexible training solutions (Mackay & Stockport, 2006). However, it was blended learning (b-learning) that gained the most popularity: combining face-to-face instruction with online sessions has proved to have a stronger impact on individuals' performance and motivation, than e-learning alone (Bersin, 2004).

Although the importance of e-learning and b-learning continues to grow in the current global market, there is still a need to develop more quality distance courses in order to contribute to business success

(Rosenberg, 2008). Both distance training solutions require new ways of teaching and learning that enable the technology to mediate the learning process and the development and acquisition of competencies (El-Deghaid & Nouby, 2007).

In a European country such as Portugal the quality and good practices related to corporate training, in both face-to-face and distance training are recognized by the Governmental Labour Office (DGERT), which formally certifies the organizations that have evidenced high quality standards in providing both face-to-face training and distance training, in domains, such as diagnosis, design, development, implementation and evaluation.

## Corporate Distance Training

Nowadays, distance training using technology plays an important role in the corporate training market, and the emergence of these training solutions has only been possible due to the appearance and development of e-learning.

According to Rosenberg (2001, p. 28) "e-learning refers to the use of internet technologies to deliver a broad array of solutions that enhance knowledge and performance". In this way, e-learning has amply demonstrated its potential by overcoming several limitations of conventional face-to-face instruction, such as, high costs (Bliuc, Goodyear & Ellis, 2007), schedule inflexibility (Bersin, 2004) and geographical barriers (So & Brush, 2008), to name a few.

There are, however, drawbacks to e-learning activities and tutoring: poor interactivity (trainee-trainer interaction, trainee-trainee interaction and trainee-content interaction); lack of feedback from the trainer (Salmon, 2004), and poorly structured synchronous sessions (Salmon, 2002a). These limitations to e-learning had all contributed to the emergence of b-learning.

## Blended Learning

Blended learning is considered a hybrid training modality which combines two different forces: conventional face-to-face instruction and e-learning (Rosenberg, 2008).

Although this definition of b-learning has been the target of some criticism, Graham (2006) explains that it more rigorously reveals the historical evolution of the concept. According to this author, traditional face-to-face instruction was, over several centuries, the only format of education, until the emergence of ICT allowed knowledge and learning to be delivered and assimilated in new ways. Following this line of reasoning, when e-learning emerged in the market, it remained separate from conventional face-to-face instruction, because each training modality employed different method combinations and addressed the needs of different audiences.

Nevertheless, new advances in technology and the development of instructional design have brought about the convergence of these systems of training, in order to combine the best of face-to-face practices and flexibility and convenience from virtual learning systems with greater cost-effectiveness (Roy e Raymond, 2008). Thus, as Bersin (2004, as cited in Mackay & Stockport, 2006, p. 85) stresses, b-learning "is designed to obviate the failures in e-learning due to high attrition rates by combining classroom and e-learning sessions and increasing the motivation of the participants to complete learning programs."

In terms of the present study, a definition of b-learning is used that approaches this concept on a holistic perspective: "Blended learning" constitutes a training modality that involves the use of different pedagogical methods and techniques, through a combination of classroom and online sessions, with the purpose of achieving the best learning outcomes (e.g.: Rosenberg, 2001; Bersin, 2004; Graham, 2006).

There is a vast body of literature regarding b-learning in academic settings. However there is a lack of information related to b-learning and other forms of distance learning, such as e-learning and mobile learning (m-learning), in the corporate training context. Indeed, there are no Portuguese studies providing a general characterization of this type of b-learning training in corporate settings.

Hence, given that there is no academic research currently available, the aim of this research is to provide valuable information about the current status of b-learning in Portugal in five core aspects. Firstly, it explored the e-learning and b-learning activities promoted by the organizations in the present sample. Secondly, it analyzed how those organizations facilitate cooperation among trainees and how they assist trainees on b-learning courses. Thirdly, the use of electronic platforms and the types of pedagogical devices distributed on these platforms were also explored. Fourthly, it analyzed the training assessment practices employed by the organizations. Finally, it explored several perceptions of training outcomes, including an analysis of the future directions of b-learning.

## Method

### *Participants*

This research involved the study of 38 organizations in Portugal, which provide corporate distance training using technology. The present sample consisted of 68% of all DGERT's distance training certified

organizations as of December of 2008.

Concerning the activity sector of each organization, we found that the majority (57.9%) developed activities related to corporate training. With regard to the size of these organizations, the majority (56.7%) were small and medium size (37.8% had between 11 to 50 employees and 18.9% had between 51 to 200 employees). For further information see Table 1.

**Table 1.** Demographic information

| Demographic variables | % |
|---|---|
| Activity Sector | 57.9 |
| Corporate Training | 10.5 |
| IT & Innovation | 5.3 |
| HR consulting | 26.3 |
| Other activity | |
| Dimension | 24.3 |
| Up to 10 employees | 37.8 |
| 11 to 50 employees | 18.9 |
| 51 to 200 employees | 18.9 |
| More than 200 employees | |

## Measures

An online survey, sent out to the coordinators of Distance Training Departments, was used to collect statistical data regarding information about the organizations they represented. As Singh, Taneja and Mangalaraj (2009) stress, the use of online surveys provides researchers with many opportunities, but it also presents some challenges**.** One of the advantages of conducting online survey research is that it provides access to individuals with Internet experience who are otherwise difficult to contact due to limitations of time and distance. Moreover, using this kind of tool increases researcher convenience due to automated data collection, which decreases researcher time and effort. Finally, online surveys cost less than paper surveys and face-to-face group or individual interviews; the cost of printing paper forms, travel expenses and telephone calls is reduced, or even eliminated (Wright, 2005; Van Selm & Jankowski, 2006).

This survey included 30 questions related to five main dimensions of b-learning: 1) e-learning and b-learning activities, 2) cooperation and assistance, 3) platforms and support, 4) training assessment, 5) training outcomes.

*E-learning and b-learning activities*. In this first dimension, questions focused on what training services were supplied to the market, the type of customers and divulgation of the course in the media.

*Cooperation and assistance*. This section addressed interactivity among trainees and the channels which facilitate this interaction. Additionally, it explored the existence of an e-learning team and its main functions, with special focus on e-tutoring.

*Platforms and support*. In this dimension the questions focused on the type of Learning Management Systems (LMSs) and Learning Content Management Systems (LCMSs) employed by these organizations to manage and organize training courses, as well as the pedagogical support that was provided in the platforms during the courses.

*Training assessment*. The questions here were designed to determine what means the organizations use to evaluate trainee performance, and what the criteria was for conferring training certificates.

*Training outcomes*. This final section addressed measuring trainee satisfaction and feedback regarding b-learning courses. In addition, thoughts on the future direction of b-learning were also explored.

A combination of quantitative and qualitative approaches was used with statistical analyses for each closed question, and content analysis for the open questions. With regard to content analyses, we developed a category dictionary and a frequency table. The former was intended to present the definitions of each category, and the latter to illustrate their weights. As Stemler (2001) stresses, the advantage of content analysis is that it permits an objective and systematic treatment of qualitative data through the definition of categories, based on explicit rules of codification.

## Procedures

To begin with, we accessed DGERT's official database containing all the certified organizations that use both face-to-face and distance training. Then we filtered the institutions certified in distance training and, having found their telephone numbers, we phoned each company's headquarters to present the study and outline its objectives to the coordinators of the distance training departments. Later, an email was sent to each of the course coordinators explaining the aim of the study in greater detail and asking them to answer an online survey.

## Results

### *E-learning and B-learning Activities*

The results revealed that 89.5% of the organizations have developed b-learning courses, leaving 10.5% who have not developed this type of training format. Taking into consideration only those organizations who already use b-learning, the results revealed that the average time this kind of training solution had been in existence was approximately 6 years (*SD*=3.564) and the organization with the longest tradition of b-learning training had first implemented these solutions in 1995. The results also showed an average of 17 different b-learning titles per organization (*SD*=23.205), ranging from a minimum of 1 course to a maximum of 120 different courses. The majority of these organizations (54.5%), however, had up to 10 different b-learning training titles (Table 2).

With regard to e-learning courses alone, our findings revealed that 70.3% of these organizations deliver this type of training, leaving 29.7% who have not developed e-learning training exclusively.

The data indicated an average of 15 different e-learning courses per organization (*SD*=28.812), ranging from a minimum of 1 course to a maximum of 135 different titles. However, the majority of these organizations (65.3%) had up to 10 e-learning training titles (Table 2).

**Table 2.** Distance courses by organization

| | b-Learning courses | e-Learning courses |
|---|---|---|
| 10 or fewer | 54.5% | 65.2% |
| 11 to 30 | 27.3% | 21.7% |
| 31 to 100 | 6.1% | 0.0% |
| 100 or more | 12.1% | 13% |

In addition, both b-learning and e-learning courses were categorized in four core training fields: behavioural training, linguistic training, professional training and technological training. Technological training refers to information technologies and microcomputer training solutions. Professional training refers to fields of expertise such as finance, management, tourism, just to name a few.

Of all the b-learning training solutions available on the market, we observed that 66.7% of the organizations deliver these courses to particular clients, 80.6% deliver these training solutions within the format of inter-company training and 61.1% develop intra-company training. Furthermore, we found that in general (79.4%) b-learning courses start with a face-to-face session. 11.8% of the organizations start these courses with an online session and 8.8% of the organizations will vary in relation to which format they start with.

With regard to the conception of the training content, data have revealed that in 84.2% of the cases, the courses are designed by the organizations and that in more than half the cases the content experts work for the organization (57.6%). 18.2% of these organizations hired external consultants as content experts, and 24.2% have both internal and external content consultants. The data also indicated that 73% of the organizations design e-learning modules according to customers' needs. With regard to the idiom in which b-learning training contents are developed, the results showed that all organizations use Portuguese, 26.3% also have content in English, and 9.7% have training content in French, 15.8% have content in other languages (e.g. Spanish and Italian).

As far as promoting e-learning and b-learning courses in the media is concerned, these organizations revealed the Internet as the delivery channel of choice, mainly through the use of online newsletters and the organizations' own web sites (93.9%). However, recourse to newspapers (36.4%), with both large and small circulations, pamphlets and brochures (24.2%) was also current practice in these organizations, but to a lesser degree. The organizations also used other channels, such as fax and word-of-mouth exposure (36.4%).

Finally, considering the total amount of training courses in the present sample in 2007, we observed a total of 4208 different deliveries, in the several training modalities. 15% of these courses were developed in the e-learning format, 20% were b-learning courses and 65% were face-to-face courses.

### *Blended Learning Results*

The results in this section only encompass those organizations that have developed b-learning training solutions. Hence, only 34 organizations from this sample will be considered in the following analyses.

### Cooperation and Assistance

In terms of promoting interactivity among trainees, these organizations (97.1%) generally use Internet forums (91.2%) and chat rooms (73.5%). Other channels of communication, such as video conferencing (23.5%) and audio conferencing (23.5%) were less significant (Table 3). Wiki spaces and blogs constitute other forms of encouraging interactivity, but on a lower scale (15.8%). The results also revealed that a considerable percentage of the organizations promote teamwork (76.5%), as well as individual activities (97%).

**Table 3.** Pedagogical devices for interaction among trainees (%)

| Interactive devices | Yes (%) |
|---|---|
| Forum | 91.2 |
| Chat | 73.5 |
| Video conferences | 23.5 |
| Audio conferences | 23.5 |
| Other | 18.5 |

Data also indicated that 91.2% of the organizations have an e-learning development team, whose principal functions involve: platform administration, pedagogical coordination, content development, development of e-learning supports, providing a help desk, tutorials and training management. The average size of these teams was 7 members (*SD*=6.167), which varied from a minimum of 2 elements to a maximum of 34 elements.

Finally, 94.1% of the organizations employ a proactive tutoring process for trainees with the tutor generally contacting trainees daily (26.7%) or weekly (53.3%). Most tutors responded to trainees' requests within 24 hours (75.8%).

### Platforms and Support

Concerning the use of electronic platforms, we found that all of the organizations in the present sample used one or more LMSs. 75.8% of these institutions acquired their platforms on the market, with particular emphasis on the *Moodle*, *Blackboard* and *Formare* platforms. The other 24.2% organizations have developed exclusive LMSs. Results also show that 58.8% of these organizations also use LCMSs.

With regard to the pedagogical support usually available for the platforms (Table 4), we observed that the main support provided was in the shape of PDF documents (97.1%), interactive modules (85.3%), Word documents (79.4%), and videos (82.4%).

**Table 4.** Available pedagogical support on the platform (%)

| Pedagogical support | Yes (%) |
|---|---|
| Interactive modules | 83.5 |
| Word documents | 79.4 |
| PDF documents | 97.1 |
| PowerPoint | 79.4 |
| Videos | 82.4 |
| Audio | 64.7 |

In addition to this, we found that only 36.7% have previously used customer LMSs' to deliver b-learning courses.

### Training Assessment

Regarding training evaluation, 91.2% of the present institutions employ diagnostic assessment as a way to evaluate trainees' knowledge in the first training session. Data suggested that all organizations use formative evaluation, 94.1% employ summative evaluation and 73.5% also use participation reports. The results also revealed that 73.5% of the organizations use online tests to assess trainees' knowledge during courses.

Additionally, the majority of the organizations (97.1%) award professional training certificates to trainees. These certificates take two forms: one is for participating on the course and the other for level of competence attained. Certain criteria such as: trainee involvement, assiduity, attendance at face-to-face sessions and obtaining a minimum grade in the activities, determine whether trainees receive these certificates.

### Training Outcomes

The results showed that all of the organizations used questionnaires to evaluate trainees' satisfaction with b-learning courses. These were either sent for completion online or completed during a face-to-face session.

With regard to trainees' difficulties which were reported by these organizations, we found that in general they faced six main obstacles when participating in b-learning courses: 1) ineffective time management, 2) lack of self-discipline, 3) inappropriate characteristics from hardware and software, which minimize or disable the use of b-learning training solutions, (e.g. low potential of the graphic cards, inexistence of flash player programs and low internet connections), 4) difficulty working as part of a team, 5) difficulty in using the e-learning platform, and 6) poor tutorial quality.

Content analysis revealed that course coordinators are used to dealing with different attitudes from trainees. Based on what a trainee's daily job is, the coordinators were able to differentiate three kinds of attitudes and behaviours regarding b-learning courses: there are trainees who are enthusiastic regarding b-learning and open to new experiences; other trainees are very cautious and doubtful regarding the effectiveness of b-learning when they start, but gain confidence as they become more acquainted with what b-learning entails; and some trainees never manage to feel at ease with b-learning, saying they preferred traditional training methods. Based on that empirical evidence, and for ease of reference, these attitudes were categorized: *proactive*, *evolutionary*, and *reactive*. The majority of course coordinators (67.6%) cited interaction with proactive trainees, 20.6% of these coordinators said they had interaction with evolutionary trainees, and only 11.8% of course coordinators said they had managed to have interaction with reactive trainees on b-learning training programs (Table 5 shows some of course coordinators statements).

**Table 5.** Trainees' attitudes according to training coordinators' daily work experience

| Attitudes | % | |
|---|---|---|
| Proactive | 67.6 | - They love it!<br>- They have a large enrolment.<br>- We have very positive feedback.<br>- We have "addicted" customers. |
| Evolutionary | 20.6 | - The initial enrolment is difficult, but from the moment they try it, at least 50% of trainees want to repeat.<br>- In the beginning there are doubts about the method. |
| Reactive | 11.8 | - They are very fearful.<br>- With insufficient maturity to accept b-learning courses. |

When asked about the outcomes of b-learning, compared to face-to-face training outcomes for the same content and learning goals, 50% of the course coordinators of distance training departments indicated that b-learning presented better outcomes than face-to-face training alone. Furthermore, when comparing b-learning and e-learning outcomes with similar contents and learning goals, 78.1% of these coordinators mentioned that b-learning produces better outcomes than e-learning alone (Table 6).

**Table 6.** Blended learning outcomes vs. Face-to-face instruction and e-Learning alone

| | b-Learning vs. Face-to-face alone | b-Learning vs. e-Learning alone |
|---|---|---|

| | | |
|---|---|---|
| Better outcome | 50% | 78.1% |
| Worse outcome | 8.8% | 6.3% |
| No significant difference | 41.2% | 15.6% |

Finally, the content analysis revealed two different categories of course coordinator attitudes regarding future directions for Portuguese corporate b-learning: *enthusiastic* and *apprehensive*. The enthusiastic coordinators (70.8%) manifested strong confidence in the development of corporate b-learning, and its future dominance, while the apprehensive coordinators expressed doubts. Their main concern was with regard to e-learning barriers, which need to be overcome. (Table 7 shows some statements about course coordinators attitudes).

**Table 7.** Course coordinators' perceptions about b-learning future development

| Attitudes | % | |
|---|---|---|
| Enthusiast | 70.6 | - It has not yet boomed, but I believe it will in the future.<br>- It will increase, mainly, with the construction of content based on 2.0 Web tools (more informative and collaborative).<br>- It will become institutionalized at all levels of education. |
| Apprehensive | 29.4 | - It is a viable solution from a pedagogical point of view, it could also eliminate geographical barriers, but there still is a long way to go.<br>- It has potential but there are obvious geographical limitations and costs are too high. |

## Discussion and preliminary conclusions

This paper constitutes an attempt to characterize the level of corporate b-learning in Portugal given that there is no academic research currently available on the subject. The study on which this article is based provides information about the current status of b-learning in five core aspects: (1) e-learning and b-learning activities, (2) cooperation and assistance, (3) platforms and support, (4) training assessment and (5) training outcomes. Sixty eight per cent of all certified distance training organizations in Portugal were contemplated in this study.

Results of this research suggest that b-learning has a short tradition in Portugal, because it only appeared on the training market in the late 1990s. However, despite the fact it is so recent, it was possible to find a considerable range of b-learning solutions, in the form of many distinct training titles, available to companies and other institutions. Findings also suggest that corporate b-learning has considerable weight in the market when compared with other training solutions, such as face-to-face instruction and e-learning.

Concerning the use of technology to assist in the learning process, the results show that a significant proportion of organizations develop exclusive LMSs in an attempt to customize their b-learning training services. In addition, these organizations have an e-learning team to ensure the correct implementation of b-learning programs and good practices in general. Practitioners seemed to be aware of the importance of interactivity among peers as a way of strengthening the acquisition of knowledge and the development of competencies. Thus, b-learning programs have been promoting this kind of interaction through several channels of communication, in both forms of synchronous channels (e.g. chats) and asynchronous channels (e.g. forums), and also through collaboration in group work. Furthermore, trainee-content interaction has proved to be a matter for careful consideration, requiring the use of more interactive devices such as interactive modules and videos, in order to aid trainees' self-paced study, and even to make training a more pleasurable experience (Salmon, 2004). Several aspects regarding e-tutoring have been received with some caution in corporate training settings. Findings also showed that there were a significant proportion of organizations with a proactive tutoring process, which had a positive impact on trainees who have engaged in b-learning courses, as well as on trainees' involvement with b-learning solutions (Salmon, 2002a).

Regarding training evaluation, the study revealed that organizations were greatly concerned about implementing successful b-learning assessment procedures. In general, these organizations start their courses with a diagnostic evaluation to assess trainees' current knowledge in order to discover what needs improving. Evaluating trainees' knowledge and competencies as the course progresses, and also at the end of the program, was shown to be common practice among these organizations. An interesting observation was that the majority of these organizations use online tests whether for diagnostic evaluation, formative or summative assessment.

With regard to the outcomes of corporate b-learning, as we saw earlier, participants exhibited different attitudes toward this format of training with the majority of course coordinators being very confident in the development of Portuguese corporate b-learning while others are apprehensive about the obstacles to b-learning that still need to be overcome. Mungania (2003) mentions seven factors that negatively impact e-learning and b-learning: personal barriers, learning style barriers, instructional barriers, situational barriers, organizational barriers, content suitability barriers, and technological barriers. In the present study course coordinators of corporate b-learning programs flagged several of these, with particular emphasis on the instructional and content suitability barriers. The former relates to the need to improve the quality of e-tutoring and assistance (Salmon, 2002a), while the latter shows the importance of developing more interactive e-contents based on 2.0 Web tools (Clarey, 2007).

Finally, given the obstacles that characterize e-learning, the course coordinators expressed a preference for corporate b-learning over e-learning alone. The preference for b-learning increases when compared to face-to-face training. Yet, there is still a general belief that face-to-face instruction leads to a better outcome than any form of distance training.

To sum up, corporate b-learning in Portugal has emerged with the aim of offering customers more flexible training solutions in a way that ensures development and the acquisition of multiple competencies. Although b-learning is a fairly recent training modality, it has not only earned acceptance in the Portuguese training market, but in the medium to long term there is likely to be an increase of this type of training provision in corporate settings.

Nevertheless, the success and prevalence of corporate b-learning in Portugal will require high quality training design, e-tutoring and content development in order to guarantee trainee engagement and an effective learning process.

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