(Digital) Learning Models and Organizational Learning Mechanisms: Should Organizations Adopt a Single Learning Model or Multiple Ones?

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Abstract Creating effective learning experiences matters for both employees and employing organizations as these experiences generate positive outcomes (e.g. improved performance). Organizations can create effective learning experiences by designing and implementing organizational learning mechanisms (OLMs). Yet, in many cases, they fail to do so. In this paper, we explore how employees perceive learning and their company's efforts in providing OLMs. We also investigate whether the learning models (i.e. face-to-face vs. online vs. blended) that employees use to learn have an impact on their satisfaction and enjoyment, as well as their perceptions of the OLMs. We surveyed 67 employees and discovered that respondents that learn using multiple learning models, instead of just one, tend to be more satisfied with their learning experiences, and have a more positive perception of their company's ability to put in place effective OLMs.

Keywords Organizational learning mechanisms · Employee perceptions · Digital learning · Learning models

1 Introduction

Researchers [e.g. 10, 14, 23] and practitioners [e.g. 22] alike widely recognize that it is important to create learning experiences that matter for employees and their organizations. Scholars are interested in exploring how organizations can enable their organizational members' learning so as to create positive outcomes such as

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higher satisfaction and efficiency, increased innovation, improved performance, and, ultimately, a competitive advantage.

Organizations do not always manage to provide meaningful learning experiences. This is evident when we listen to the voices of employees and top management [22]. Often, organizations fail to align learning and business needs, and to provide the proper organizational support needed to connect learning to employees' role responsibilities and career plans [22]. They also sometimes fail to create a supportive learning-oriented culture [e.g. 4]. Existing literature grouped these issues under the concept of organizational learning mechanisms (OLMs) [e.g. 1], intended as a set of organizational values, processes, and systems that support and facilitate individual and organizational learning.

Over the years, scholars have studied and categorized the different types of OLMs, as well as their impact, in terms of individual and organizational outcomes. However, we still know little about how employees perceive and evaluate their company's efforts in creating and implementing these mechanisms. In particular, there is a need for research on the extent to which digital and tech-based models help boost the learning experience and create a better perception of OLMs. Does digital learning reinforce the employees' perception of the effectiveness of OLMs? This question is extremely relevant if we consider that the use of digital and tech-based learning models and learning methods has increasingly grown over the past years [5], yet the effectiveness of these models and methods is often debated.

Indeed, the great majority of studies point out that technology facilitates learning in multiple ways, but that it also presents a set of potential drawbacks [e.g. 7, 16]. This is one of the reasons why, recently, several studies suggested that effective learning occurs when we rely on a combination of multiple learning models, methods, and modes [e.g. 5].

In this article, we aim to compare employees' perceptions of OLMs based on how much they rely upon digital and non-digital learning models, and on the extent to which they use a single learning model versus a combination of multiple learning models. Are employees more satisfied and do they value more their company's effort when (a) they learn in a traditional or in a digital way? (b) they use only one learning model or more than one learning model at the same time?

The article is organized as follows. In the next sections, we introduce the concept of OLMs and we review the different learning models according to the literature. Then, we present our research methods and discuss results, which suggest that while employees tend to perceive OLMs similarly notwithstanding how much they learn using a face-to-face versus an online versus a blended model, differences in perception occur when we compare employees who rely on a single learning model (regardless of the specific model) versus those who rely on a combination of multiple models (i.e. a mix of all three models). Implications for research and practice follow.

2 Organizational Learning Mechanisms (OLMs)

Organizations can—and have the responsibility to—support and facilitate employees' learning. It is not new that "in the absence of explicit intention and appropriate mechanisms, the learning potential may be lost" [13: p. 432]. Organizations can enhance employees' learning by adopting a set of OLMs, which are those organizational processes and structures that can create or improve learning opportunities [2] and help organizational members gather and apply knowledge-related resources effectively [20, 21].

Given this, it is undoubtedly clear that OLMs play a fundamental role in organizations [3]. For example, they generate positive outcomes related to knowledge creation [8], continuous improvement [19], the fostering of a creative climate [9], and organizational performance [11].

Existing literature has categorized OLMs into cultural and structural facets [1, 12, 20, 21]. Cultural facets (or cognitive mechanisms [9]) enable the development of a learning culture. These include having shared vision, values, norms, assumptions, beliefs, roles, and behaviors. Structural facets (which include also procedural mechanisms [9]) are people development processes, as well as elements that ensure that learning activities are supported and realized within the workplace. For example, they include leadership, management (including performance and change management), communication, information and knowledge systems, and technology.

Taken together, existing studies posit OLMs as extremely relevant for sustaining an organizational competitive advantage. While research often explores 'why' having OLMs in place within an organization is important, and 'what' precisely OLMs are, we still know little about how organizational members perceive their implementation within the employing organization. We also know little about whether a positive perception of existing OLMs drives learning satisfaction and enjoyment.

3 Learning Models

Employees increasingly learn in multiple ways within organizations, using different learning models [5]. By learning models, we refer to the set of general principles that an entire learning experience is built upon [5]. According to the literature, choosing a learning model implies a choice between traditional, online, and blended learning.

Traditional learning is typically associated with face-to-face learning, where learners and instructors are physically present in the same place at the same time [2].

Online learning is a form of distance learning where technology mediates the learning process and teaching is delivered completely online. Learners and instructors are not required to be present in the same place at the same time [15].

Blended learning provides a learning experience through the integration of different learning methodologies, including face-to-face with a technology-enabled environment [6].

Until now, traditional learning has been predominant, even as the use of online and blended learning has been increasing, given the general increase in the use of tech-based learning [5]. Despite these trends, we still do not know whether any of the models is more or less successful in generating positive employee perceptions of OLMs.

This study therefore seeks to compare the perceptions that employees have of OLMs and their learning satisfaction and enjoyment depending on whether they use face-to-face, online, or blended learning, but also on whether they almost exclusively learn using one of these three models or a mix of models.

4 Methods

This study is part of a broader research project on how we learn today and how we will learn within organizations in the future. In the broader study, respondents replied to both open-ended and closed questions about their view on learning, their expectations, their experiences with learning models and methods, as well as their perceptions of organizational learning mechanisms and learning outcomes.

The sample in this paper consists of 67 employees, 70% of which are female, 60% of which are 35 years old or younger, 93% of which are Italian or working in Italy, 47% of which are non-HR employees (i.e. they either work in administration, accounting, or finance positions, technical or R&D positions, marketing or sales positions, general management positions, or operations, production, and logistics positions), and 55% of which work for large firms (i.e. firms with more than 250 employees).

With the exception of Lyons et al.'s [18] scale on work values, we measured the responses to the scales below by asking respondents to rate the extent to which they agree with each statement (with 1 = strongly disagree and 5 = strongly agree, including a N/A or I don't know option, where applicable).

Learning as a work value. Adapting Lyons et al.'s [18] scale on work values, we asked respondents how important it is for them to have "*the opportunity to continuously learn and develop new knowledge*" (i) when deciding to accept a potential job, (ii) when staying in a job, (iii) for being engaged in their job. The scale ranged from 1 to 5, with 1 equaling not at all important, and 5 equaling absolutely essential.

Mission-linked learning. We used a 10-item scale [1]. A sample item is "*Learning and development plans are linked to my organization's vision, mission, and goals*".

Facilitative learning environment. We used two 5-item scales [1]. A sample item is "*The continuing commitment of top management to developing people is communicated to all employees*".

Learning identification satisfaction. We used two scales [1]. One is a 5-item scale considering the section/work unit. A sample item is "*My section/work unit has a sound process for prioritizing my learning and development needs*". The other one is a 9-item scale considering the immediate supervisor. A sample item is "*My immediate*

supervisor uses a constructive approach to discuss my learning and development needs with me".

Learning and development need (organizational support). We used a 7-item scale [1]. A sample item is "*I am usually able to undertake training programs that meet my training needs*".

Learning application. We used three scales [1]. The first one measures suitability using 3 items (sample item: "*I am usually asked to evaluate the suitability of my completed learning and development activities for my co-workers*"). The second one measures effectiveness using 2 items (sample item: "*Learning and development activities within my organization are cost effective*"). The third one measures immediate supervisor support and feedback using 5 items (sample item: "*My immediate supervisor helps me to put my learning into practice in the workplace*").

Learning satisfaction. We used two 5-item scales [1]. A sample item is "*The learning programs I have undertaken in the last 12 months usually meet my learning needs*".

Learning enjoyment. We used a 3-item scale adapted from Lin et al. [17]. A sample item is "*While learning I feel happy and satisfied*".

For all these measures, Cronbach's alpha values are above 0.7, with a few exceptions that are highlighted in the tables in the rest of the paper.

5 Results

5.1 Learning Is a Key Driver for Attraction, Retention, and Engagement

The opportunity to continuously learn and develop knowledge within an organization is a key driver for potential and existing employees. It is critical for attraction, retention, and engagement.

When asked about the importance of having the opportunity to continuously learn and develop new knowledge, 83% of respondents said that it is very important or absolutely essential for them to have the opportunity to continuously learn and develop new knowledge when deciding to accept a job, or when deciding to stay in a job. Similarly, 81% of respondents felt this way with regards to being engaged in their job.

Given this, organizations need to invest in providing adequate solutions that enable employees to make the most out of their learning experiences. This is the focus of the next sections, where we analyze how employees learn (looking at learning models), and how they think their organization is doing in terms of making learning relevant and aligning it with the company's mission, as well as in terms of providing support for the exploitation of learning opportunities, and for making them relevant for daily work.

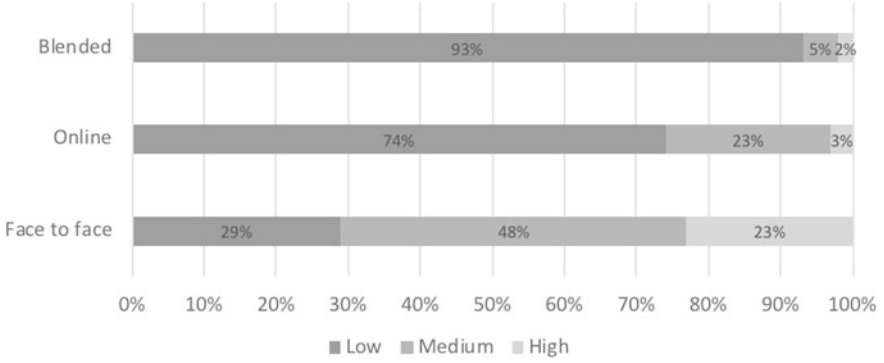

Fig. 1 Use of learning models (*Note* low category = percentage of use chosen by respondents is between 0 and 30; medium category = percentage of use chosen by respondents is between 31 and 70; high category = percentage of use chosen by respondents is between 71 and 100)

5.2 The Use of Learning Models

Despite growing attention to the use of blended learning in practice and in academic literature, in reality, employees still make ample use of the traditional, face-to-face, learning model. In our sample, 23 and 48% of respondents make up the high and medium use categories, respectively. The use of digital models, instead, is still scarce in the great majority of cases. In particular, the high use of blended learning is very limited (2% of the cases), while 93% of respondents said that they either do not use it, or use it only to a very limited extent (see Fig. 1).

5.3 Face-to-Face Versus Online Versus Blended Learning Models: Differences with Regards to Satisfaction, Enjoyment, and OLMs

When comparing the learning satisfaction and enjoyment of employees who declare a low versus medium versus high use of the three learning models, the most interesting findings are the following (see Fig. 2).

In general, overall satisfaction levels are lower than enjoyment levels. Respondents are most satisfied with low face-to-face use and are least satisfied with high online and blended use. These results confirm the idea that online learning is not yet fully exploited and properly designed. Moreover, they highlight the importance of providing employees with a range of learning models to be combined.

Respondents who indicated a low use of the face-to-face model are more satisfied relative to those who indicated medium and high use of the face-to-face model, while they enjoy learning less than those who chose medium and high face-to-face

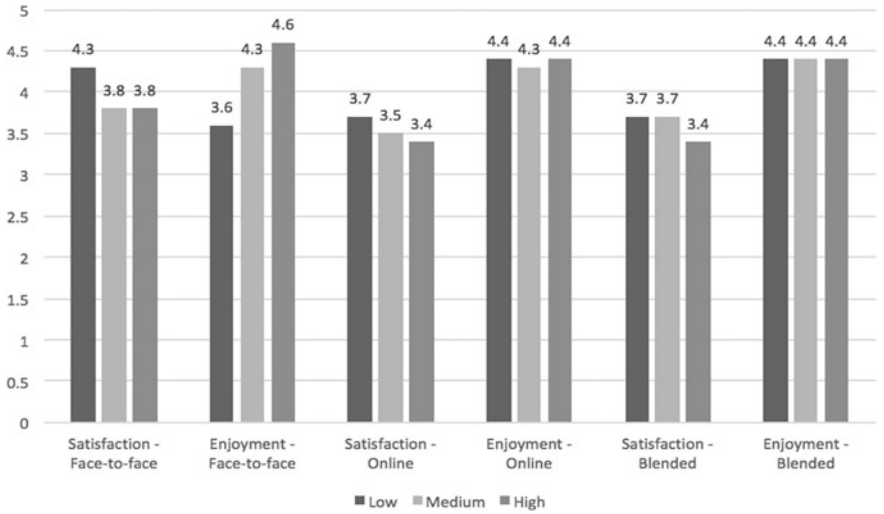

Fig. 2 Learning satisfaction and enjoyment means across sub-samples of face-to-face, online, and blended learning models (*Note* low category = percentage of use chosen by respondents is between 0 and 30; medium category = percentage of use chosen by respondents is between 31 and 70; high category = percentage of use chosen by respondents is between 71 and 100)

use levels. At medium and high levels, enjoyment levels are higher than satisfaction levels.

Respondents who indicated lower levels of use of online and blended learning models are more satisfied overall relative to those who indicated that they use these models to a higher extent. Overall, respondents using online/blended learning models report higher levels of enjoyment than satisfaction. This raises a reflection about whether digitally-based learning is just "fun" or also effective in making learning happen.

Next, the overarching trend in the data shows that employees' perceptions and evaluations of OLMs are similar across the three learning models (see Table 1).

5.4 Single Learning Model Versus Multiple Learning Models: Differences with Regards to Satisfaction, Enjoyment, and OLMs

In this section, we explore whether respondents using a mix of face-to-face, online, and blended learning models perceive higher levels of OLM effectiveness, as well as have higher learning satisfaction and enjoyment levels, compared to those who rely on a single learning model (either face-to-face, online, or blended).

Table 1 Perceptions of OLMs when using face-to-face, online, and blended learning models

	Face-to-face low	Face-to- face medium	Face-to-face high	Online low	Online medium	Online high	Blended low	Blended medium	Blended high
Mission-linked learning	3.5	3.8	3.5	3.6	3.6	3.4	3.6	3.6	3.4
Facilitative learning environment	3.6	3.9	3.6	3.7	3.7	3.6	3.7	3.5	3.6
Learning identification satisfaction—section/work unit	3.4	3.7	3.5	3.5	3.3	3.3*	3.5	3.1	3.3
Learning identification satisfaction—immediate supervisor	3.6	4.0	3.9	3.8	3.6	3.9	3.8	3.5	3.9
Learning and development need—organizational support	3.6	3.6	3.6	3.6	3.4	3.5	3.6	3.2	3.5

(continued)

Table 1 (continued)

	Face-to-face low	Face-to- face medium	Face-to-face high	Online low	Online medium	Online high	Blended low	Blended medium	Blended high
Learning application—suitability	3.8	3.6	3.9	3.9	3.4*	3.9	3.7	3.8	3.9
Learning application—effectiveness	3.6	3.6	3.9	3.7	3.1	2.8*	3.6	4.0	2.8
Learning application—immediate supervisor support and feedback	3.3	3.7	3.8	3.6	3.1	3.7	3.5	3.4	3.7

Note *Means that Cronbach's alpha values are below 0.7 or NA

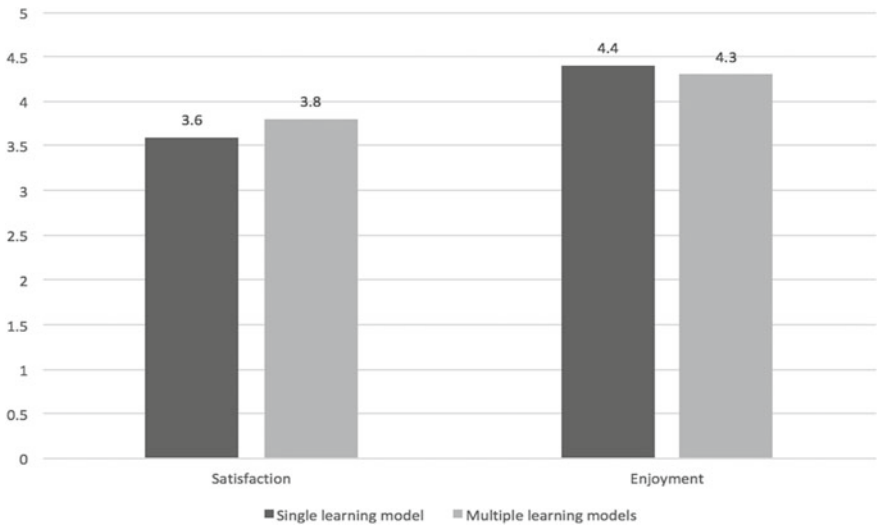

Fig. 3 Learning satisfaction and enjoyment means when using single versus multiple learning models

We perceive opposite results for satisfaction and enjoyment, even though the difference is small. Satisfaction is higher when respondents use multiple learning models, while enjoyment is slightly lower (see Fig. 3). We may assume that employees perceive a multiple learning model experience as more complex (and less "fun") but also as more effective, leading therefore to greater satisfaction.

With regards to OLMs, respondents who use multiple learning models give higher scores to all of the OLMs with the exception of learning application—effectiveness (see Table 2). This might confirm that there is no single winning learning model, because learning can occur better when an appropriate mix of different learning models is used.

6 Conclusions

In this paper, we reflect on whether digitally-based learning (including online, but also blended learning) is more or less effective in providing a learning experience that is perceived to be aligned with business and individuals' needs, and its effect on the evaluation of company OLMs.

Relying upon evidence from 67 employees' responses to an online survey, we suggest that, more than a matter of blended versus online versus face-to-face learning, it is a matter of adopting multiple learning models versus a single one to create an enriched learning experience. This implies that digitally-based learning, despite being a trend, is not always good, or at least not on its own. At the same time,

Table 2 Perceptions of OLMs when using a single learning model versus multiple learning models

	Single learning model	Multiple learning models
Mission-linked learning	3.5	3.8
Facilitative learning environment	3.6	3.9
Learning identification satisfaction—section/work unit	3.4	3.7
Learning identification satisfaction—immediate supervisor	3.6	4.0
Learning and development need—organizational support	3.5	3.7
Learning application—suitability	3.8	3.7*
Learning application—effectiveness	3.6	3.6
Learning application—immediate supervisor support and feedback	3.5	3.7

Note *Means that Cronbach's alpha values are below 0.7 or NA

traditional, or face-to-face learning, is still effective, but even more so when combined with online and blended learning models.

In fact, blended learning already implies multiple learning models, because it combines face-to-face and tech-enabled experiences, even if its current use is very limited. This means that organizations already have the "solution" to make learning more effective and improve employees' perceptions of OLMs. It is "only" a matter of making blended learning the most diffused learning model.

Given this, from a practice point of view, we recommend organizations and instructional designers to better explain and communicate what blended learning is, what the potential benefits are for employees, and how it can be used effectively. Moreover, they should carefully design learning experiences using a mix of learning models, and help employees choose and integrate them into their personal learning, in line with their learning needs.

Future research could expand on the data collection by enlarging the sample, and also explore whether additional differences emerge among groups that differ in terms of age, seniority, role, exposure to training and development, topics that they have received training on, as well as the size of the companies that respondents work for.

Moreover, future studies could include measures for learning effectiveness. In this paper, we focused on learning enjoyment and satisfaction. These measures, however, do not necessarily reflect how much employees actually learn. Alternatively, a two-stage study could be designed, where respondents answer surveys prior to and after going through learning experiences designed using a single learning model versus multiple learning models. Including a third-party evaluation (e.g. by a superior or colleagues) of learning effectiveness could also be interesting, and help avoid reliance on self-evaluation only.

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