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Developing professional competence at a Mexican organization: Legitimate peripheral participation and the role of technology

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Abstract

In the last decade, technology has become a fixed reality in organizations, transforming the strategies deployed in them to develop professional competence. This study analyzes the development of professional competence of employees of a large Mexican organization, focusing on the legitimate peripheral participation process and the role of technology in the staff's learning. This was a case study based on in-depth interviews with six employees at different stages of expertise. Areas explored included the characteristics of their communities of practice, their legitimate peripheral participation process, and the role of technology in their learning. The two researchers individually coded the interviews and identified key themes. For participants in this study, a main benefit of belonging to a community of practice was to be able to learn from other members. While their organization employed formal educational strategies (e.g., courses and departmental visits), interviewees tended to value more informal learning derived from face-to-face contact with peers and supervisors, especially when being novices. Some also reported that performing their job activities on their own was particularly useful for learning. Their reactions towards the use of technology in education varied, ranging from highly skeptic to highly supportive. Their previous experiences and their perceptions of e-learning were characterized by the lack of social interaction opportunities. Results have implications for the design of organizational learning strategies. They highlight the importance of including practical in-the-job situated activities in professional competence development programs and social interactions in online courses.

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1. Introduction

Knowledge is crucial for business success as it provides a competitive advantage (Wenger, McDermott & Snyder, 2002). Thus, understanding its functioning is a relevant activity for organizations. To conduct this task, the researchers considered the framework of communities of practice and legitimate peripheral participation. Moreover, they considered the role of technology, which has transformed the strategies deployed in organizations to develop professional competence.

Communities of practice represent a way in which learning is cultivated in organizational contexts. These are informal groups of people who share problems and interests, as well as information, thoughts and advice (Wenger, McDermott & Snyder, 2002; Wenger & Snyder, 2000). Since membership is based on participation rather than on official status, these communities are not bound by institutional affiliations, structures or hierarchies (Wenger, 1998).

Communities of practice exist in any organization. They structure the learning potential through knowledge developed at their core and interactions at their boundaries. Three dimensions define them: 1) topic -members' joint enterprise, 2) functions -binding relationships of mutual engagement, and 3) products -shared repertoire of common resources developed by members, including routines, vocabulary, artifacts and styles (Wenger, 1998). Cultivating these communities represents a practical way in which organizations can manage knowledge as an asset (Wenger, McDermott & Snyder, 2002).

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Several benefits arise from communities of practice. In the short term, these groups serve as a space to solve problems, enable better decision-making and facilitate risk-taking. In the long term, they foster organizational skills, like the execution of strategic plans, the retention of talent, the creation of knowledge-based alliances, the prediction of technological developments and the identification of new market opportunities. The value of communities of practice can take tangible (e.g., manuals) or intangible (e.g., a sense of trust) forms (Wenger, McDermott & Snyder, 2002).

Members of a community of practice improve their job experience in different ways. They can use the group as a forum to expand their abilities, share knowledge and connect to experienced people in their field. They can get help with challenges and have fun with work colleagues. Additionally, communities of practice are more permanent than teams and unlike business units, they are organized around what matters to their members. Thus, they provide a sense of identity and belonging (Wenger, 1998; Wenger, McDermott & Snyder, 2002).

1.1 Legitimate Peripheral Participation in Communities of Practice

Legitimate peripheral participation refers to the process through which new members become part of a community of practice. It relates to the acquisition of knowledge and skills that enable novices to achieve full status in the community. Although its focus is more on the learning resources of the group, rather than on teaching or on the initiative of students (Lave & Wenger, 1991), nursing the process of legitimate peripheral participation can help people have a smoother entrance to the community of practice (e.g., O'Donnell & Tobbell, 2007).

Organizations can successfully facilitate the legitimate peripheral participation into a community of practice. For example, in a study conducted at a library, trainees started with a formal induction program, followed by a more informal introduction to the community of practice. They were introduced slowly to different tasks, advancing from the easier to the more difficult ones. They had a chance to learn and experiment before having to carry out the activities by themselves. They also had the support of senior members, who exemplified good practices. When they felt able to teach other staff, they moved towards mastery and achieved full status in the community (Clarke & Thomas, 2011).

Another successful case happens at Google. Johnson and Senge (2010) identified well-designed strategies to help new software engineers become productive in a community of practice. Employees formed small groups, minimizing the complexity of an organization as big as Google. This also fostered collaborative, professional relationships between novices and experts. Additionally, each newcomer was assigned a mentor with no direct operational/career relationship. The mentor supported enculturation during the first months and represented channel to convey doubts and address pressing needs in a friendly way (Johnson & Senge, 2010).

Other formal strategies are useful but less successful. For example, a higher education institution offered a program named “an introduction to university study for mature students”, aiming to help people over 25 years starting their studies. Participants were exposed to different aspects of university life. They could take classes on essay writing and note-taking. While tutors tried to “teach” certain skills, students only learned when actively engaging in them. It is more than talking *about* practices; it is about talking *within* those practices. The authors of this paper concluded that “learning and participation are not events but rather processes that happen over time and place” (O'Donnell & Tobbell, 2007, p. 327).

1.2 Use of Technology to Facilitate Legitimate Peripheral Participation in Communities of Practice

In the last decade, technology has become a fixed reality in organizations, transforming the strategies deployed in them to develop professional competence. Although a community of practice is definitely not a website, a database or a knowledge repository (Wenger, McDermott & Snyder, 2002), information and communication technologies (ICT) do have a great potential to help novices become experts in their group. While online communities of practice might form more slowly and the expression of identity is different (e.g., via an electronic profile), legitimate peripheral participation in virtual environments is similar to that in face-to-face settings (Smith & Coenders, 2002).

Technological tools can enhance communication between members of a group and thus, be part of organizational strategies to facilitate the legitimate peripheral participation. For example, novice librarians were encouraged to sign up to key mailing lists to learn more about the community of practice, first as observers and then active participants. The library hoped they would eventually send their own emails to the lists, asking questions or engaging in debate (Clarke & Thomas, 2011). In a study with teachers, novices found orientation and support from more experienced members via electronic discussion forums (Lockyer, Patterson, Rowland & Hearne, 2002).

At Google, technology plays a key role in learning processes. Most initiatives, projects and communities have a website in the intranet and mailing lists, both open for exploration. Newbies can check the information, see the interactions between the members and when confident, contribute to conversations in discussion forums. Also, employees provide weekly progress reports and

trimonthly objectives. These documents are available for everyone, which enables a non-intrusive way of modeling examples of good practice (Johnson & Senge, 2010).

2. Problem Statement

A large Mexican organization (+6000 employees) with a high geographical dispersion has a business strategy to document and deliver key knowledge to employees. This translates into several activities, like face-to-face induction courses, departmental visits and a content-based online training system composed by several courses available through the e-learning platform Moodle. The educational offer is available for the areas of Marketing, Innovation and Development, Education and Sales, only for certain job positions.

This organization was interested in improving its offer of educational opportunities for its staff by increasing the usage and refining the design of online courses. This required a more thorough understanding of employees' belonging to communities of practice, their learning experiences and their legitimate peripheral participation. This study analyzes the development of professional competence of employees, focusing on the legitimate peripheral participation process and the role of technology in the staff's learning.

3. Research Methods

3.1 Participants

Participants were six employees, four women and two men, at different stages of expertise. Their tenure at the company ranged from 2 months to 15 years. They belonged to different areas, but all focused on helping increase sales. When starting at the organization, they all had some educational or professional experience that helped them do their job. However, they all had to learn the specifics of their daily tasks. Next, there is a brief background on them. Fake names were used to protect their identities.

Laura

She started working in Human Resources 15 years ago and is an expert in her area. She has held different positions, but they all relate to training. She feels really passionate about her job. She works mostly with sales staff and helps them train retailers. Since retailers' wages depend on sales commissions, she sees her job as an opportunity of helping them to live better. If she effectively teaches people how to increase their sales, she is helping them earn more money to provide for their families.

Ana

Ana had been in the company for seven months. She works with Laura in Human Resources. She has six years of previous work experience in training and development. In this study she is not considered an expert because she was still learning the ways of the organization. While she had designed educational programs in the past, she explained that it was different here. She used to deliver the courses she created. Here she had to prepare the materials in such a way that *others* could deliver them. She still looked at Laura, who acted as her mentor, for support when carrying out her tasks.

Robert

Robert had worked for six years in the company and for two years in his current job position. He began in the Marketing department, where he assisted the managers of the different brands produced by the organization. He later moved to Market Intelligence. He is in charge of managing a database, which he created, and obtaining sales reports. Due to his tenure and trajectory, he is considered an expert in this study.

Jim

Jim is part of the Market Intelligence department. He had some experience from previous jobs. His educational background is in economy, which Jim considered related and useful for his tasks (mostly sales reports). However, he had to adapt to the specific way of working of the company. He had held his position for 8 months. While that is not a long time, he could already train others, like Karen. Thus, his level of expertise is considered medium.

Karen

Karen also works in the Market Intelligence department. Like Jim, she had previous experience in a similar area and studied economy at university. However, she had been at the company for only two months. She was still learning how to deliver the specific products that were required from her (e.g., sales reports). She is considered a novice in the organization.

Veronica

Veronica has worked at the company for only two months, as a retailer. Her job is to offer the organization's products to customers shopping at the supermarket. While she is quite new, she has experience on her job. She used to work in the same area for a different

company. She is familiar with the general approach to sales and customers. Nonetheless, she still has to learn the specific characteristics of products she sells. Thus, her level of expertise is considered medium.

Table 1 presents a summary of participants' characteristics.

Table 1. Participants' Characteristics

Participant	Gender	Tenure	Expertise	Area	Main Task
Laura	Female	15 years	High	Human Resources	Design educational programs.
Ana	Female	7 months	Medium	Human Resources	Design educational programs.
Robert	Male	6 years	High	Market Intelligence	Create sales reports.
Jim	Male	8 months	Medium	Market Intelligence	Create sales reports.
Karen	Female	2 months	Low	Market Intelligence	Create sales reports.
Veronica	Female	2 months	Medium	Sales	Sell products at the supermarket.

3.2 Instruments

The researchers used semi-structured interviews to collect data. This instrument was chosen because it allows participants' experiences, thoughts and feelings to guide the interview, while staying within the framework of the research aim (O'Donnell & Tobbell, 2007). Areas explored included their legitimate peripheral participation process, and the role of technology in their learning.

3.3 Procedure

The researchers conducted and recorded the interviews. Verbatim transcriptions were obtained and checked against the original audio recording for accuracy. Each interview was coded using Dedoose, a web-based application for managing, integrating and analyzing qualitative data. Text segments that conveyed a specific content were identified and associated to one or more codes based on the literature. Only information that referred to the areas explored (characteristics of communities of practice, legitimate peripheral participation process and technology in learning) was included in the codification. Accessory elements were excluded. The researchers used the resulting analysis to identify key themes.

4. Findings

Results were grouped in themes that correspond to the areas explored in the interviews: the legitimate peripheral participation process, and the role of technology in learning. The researchers conducted the interviews in Spanish. Participants' words presented as examples are translations, which attempted to be as close as possible in meaning to the original discourse.

4.1 Legitimate Peripheral Participation

The organization employed some formal educational strategies (e.g., courses and departmental visits) as part of employees' induction processes. These tended to focus on topics generally relevant, like the company's mission, the products and the brands. However, participants consistently reported having limited timely training on how to carry out their job functions:

Laura: "The only course I did, the only one was... one of how to be a facilitator... And I took it several months after I was already facilitating courses [laughing]"

Robert: "I never had a course or something [on how to use software crucial to do his job]. There are some tutorials on the website. It's a page via Internet, an Internet page that has a password to get in. And... basically [I learned] plunging in."

Jim: "I had a day of training of that [general information about the organization]. It [the training] was half a day, when I joined the organization. What I know, I learned at the job. [...] I had no training. I learned by clicking and having a colleague telling me how to do it"

Mostly, people learned and developed professional competence directly on the job. Interviewees considered that performing their daily activities on their own was useful for their legitimate peripheral participation. Jim and Karen exemplify the value of working independently:

Jim: "I think that [learning] by myself [has been useful], making mistakes. Although it has been harder, I've had problems and sometimes people do not trust me because I've sent things wrong, it has been the most useful to really know what my job is like".

Karen: "It was helpful to see what he [her mentor] was doing, but now that I have my own region assigned and that I am asked to do things directly, I am learning more. [...] It is not the same to see what someone is doing and to do it yourself".

Group support was crucial during this process. People with more expertise usually mentored novice members. For example, in Human Resources, Laura taught Ana and felt they had an excellent relationship. In Market Intelligence, Jim helped Karen, who considered she could always ask her colleagues for guidance and had a social, more personal relationship with them. Sometimes the organization assigned mentors. For example, Laura received help from an external consultant. Robert had the regular support of his boss. Other times, mentors seemed to acquire their role spontaneously. Veronica pointed out that her mentor, a retailer with more experience, decided to help her out of kindness: "It was her own initiative. When I arrived to this store, she was not even here. [...] She didn't get any [request to train me], nothing, no 'teach her'".

Participants tended to value informal learning derived from face-to-face contact with peers and supervisors, especially when being novices. Jim described his experience like this: “It was mostly him [his work colleague]. That’s how I learned, not with training but thanks to what he taught me”. Karen also found guidance in other members of her community of practice: “If my boss is not there, there are others who do not have my same role, but are in the same department. I can get support from them”. All interviewees mentioned at least one person who had helped them (or was still helping them) in their legitimate peripheral participation process. For them, a key benefit of belonging to a community of practice was to be able to learn from other members.

4.2 Role of Technology in Learning

Participants’ reactions towards the use of technology in their legitimate peripheral participation process varied, ranging from highly skeptic to highly supportive. For example, Karen did not like web-based learning and was not interested in studying online:

“I learn like that, without technology. [...] At school, online courses, I try to avoid them. [...] I am more old-fashioned, more of face-to-face courses. [...] I prefer contact, people. [...] If I sit down and read a book, of course, I will read it and understand it, but maybe my process is a bit slower”.

Robert, who had experience with the organization’s online training system, described it quite bluntly: “It sucks”. He explained that the program he studied was not effective because it implied repeating his regular job tasks, most of which he already mastered, in a detached context:

“If that course had been available when I first joined the company, it would have been useful. But as it was, I already had a lot of work, plus all the extra work of the same things. It was like doing double work. And that [doing the course activities] gave no results. I just did it to tick the box. [...] It was more day-to-day work. The difference was that you had to upload it to the platform. I had lots of other [more urgent] things to do that were for the next day [and I had to work on the online course]. Come on...”

On the other hand, Laura, Jim and Veronica had a more positive attitude towards the use of technology for learning and commented on its benefits, like better access, time flexibility and higher involvement. Ana was also quite open in this regard and expressed interest in studying online. However, she did recognize that the e-learning at the organization was “complicated”.

It was interesting that participants’ experiences with e-learning were characterized by the lack of social interaction opportunities. Although online training at the company was delivered via Moodle, which has a social constructivism philosophy, courses were mostly content-based and compared to information repositories. There were no discussion forums, chats or other communication tools available. Robert described it: “Information was there and you studied it, online”. Karen had not been part of these courses, but her experience with e-learning in her previous job was similar: “I was completely alone. It was, like, ‘read this’. Well, you had to listen to the little guy that was recorded, watch the video, and at the end you had an exam”.

In line with this, participants seemed to take as a fact that in online training, no social interactions would happen. For example, Ana mentioned that one of the advantages of web-based learning at the organization was that “materials of self-study can be developed, without the need of an instructor”. Jim assumed that as well: “If I had questions, I don’t know how the system would answer”.

5. Discussion

Participants in this study considered that performing job tasks on their own was useful for learning. However, their courses were mostly general or detached from their daily workplace activities. While having a tutor and/or reference information available was useful, that did not undermine the fact that *doing* was crucial for understanding. This is similar to O’Donnell and Tobbell’s (2007) finding: It is more than talking *about* practices; it is about talking *within* those practices.

A main benefit of belonging to a community of practice was to be able to obtain guidance and advice from other members (Wenger, 1998; Wenger, McDermott & Snyder, 2002). Participants tended to value informal learning derived from face-to-face contact with peers and supervisors, especially when being novices. They all had someone to whom they look up for guidance. This is consistent with successful legitimate peripheral participation strategies in which senior members and mentors support novices during their first months (Clarke & Thomas, 2011; Johnson & Senge, 2010). The participating organization could benefit from guidelines to help those mentors who assumed the role spontaneously.

Finally, attitudes towards the use of technology in learning were varied. This is both a challenge and an opportunity. Technology can enable a smoother entrance to a community of practice. For example, mailing lists and discussion forums can foster communication between members (Clarke & Thomas, 2011; Johnson & Senge, 2010; Lockyer, Patterson, Rowland & Hearne, 2002). E-learning platforms, like Moodle, have the potential to serve as more than mere content repositories. Yet, participants’ experiences with online learning were characterized by a lack of social interactions. Considering that they agreed that they learned from other members of their communities of practice, some questions emerge: Why do organizations design courses with little or no social interaction opportunities? Why do companies block networking tools? This should be addressed when developing organizational learning plans.

6. Conclusions

Communities of practice are not bound by institutional affiliations, structures or hierarchies (Wenger, 1998). Nonetheless, companies can adopt several formal strategies to nurse the legitimate peripheral participation. The participating organization offered induction courses, online training and departmental visits, and yet, interviewees did not value these activities highly. There are two main reasons for this: 1) They were not closely related to the learning of core job functions; 2) They lacked interaction opportunities.

While this study is limited to the particular context of the company in Mexico, its findings can be applicable to other similar environments. People learn from people. People learn from doing. To foster a smoother entrance to communities of practice, organizations could nurse the legitimate peripheral participation and take advantage of the potential benefits of technology. They can achieve this by assigning mentors to support and guide new employees, including practical in-the-job situated activities in professional competence development programs and offering social interactions opportunities (e.g., discussion forums) in online courses.

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