

# **Three Decades of Communities of Practice Conceptualization: revisiting the foundations of Lave and Wenger's constructs and their impact on contemporary learning theory**

Flávia Roberta Fernandes<sup>1</sup>, Helena de Fátima Nunes Silva<sup>2</sup>, Glauco Gomes de Menezes<sup>3</sup>, Jean Frank Teodoro Dantas Sartori<sup>4</sup> and João Augusto Wendt Mischiatti<sup>5</sup>,

<sup>1</sup> Information Management Masters and PhD Programme of the Federal University of Paraná

<sup>2</sup> Information Management Masters and PhD Programme of the Federal University of Paraná

<sup>3</sup> Information Management Masters and PhD Programme of the Federal University of Paraná

<sup>4</sup> Information Management Masters and PhD Programme of the Federal University of Paraná

<sup>5</sup> Information Management Masters and PhD Programme of the Federal University of Paraná

## **Abstract**

*This article aims to identify the key authors and the theoretical foundations' delineation of Lave and Wenger's concept of Communities of Practice (CoPs) and its relationship with the learning theory. This exploratory and descriptive study applied a qualitative approach and bibliographic research based on Lave and Wenger's (1991) publication "Situated Learning: Legitimate Peripheral Participation". All 48 references indicated in their research and the perceived relevance the authors have in academia. Data analysis was conducted using bibliometric and content analysis techniques with the aid of the NVivo software. The results showed the relevance of the key authors to the academy based on their number of publications, citation analysis, h-index, fields of study and contributions to those fields. We also identified that the concept of Communities of Practice is interdisciplinarity amongst anthropology, sociology, and psychology.*

**Keywords:** Communities of Practice; Etienne Wenger; Jean Lave; CoPs.

## **1 Introduction**

Communities of Practice (CoPs) are characterized by a group of people with common interests. These members are united by the will to expand their knowledge through a practice that aims to solve problems experienced by the group. They are collaborative and informally organized, focusing mainly on learning through individual socializations at their levels of participation (COX, 2005).

The constructs of CoPs coined by Wenger in 1991 stemmed from his personal experience, as the author started in computer science research with studies on computer-based education addressing artificial intelligence and tutoring systems (WENGER, 1987), culminating with works in co-authorship with the anthropologist Jean Lave (WENGER, 2010). The approximation between them resulted in their shared

interest in the social theory of learning due to questions raised from their computer science investigations and “the difficulty in cognitive approaches to learning to explain meaning-making.” (OMIDVAR; KISLOV, 2014, p. 268).

Lave and Wenger’s research are classified in the field of social theory since the fundamental interest of the CoPs lies in the relationship between individuals and, additionally, in the social structure. Also, Wenger’s knowledge, professional experience, and academic activities helped connecting the concept with interdisciplinary areas and practices in the fields of computer science and anthropology — and, subsequently, business, through his work as a consultant (COX, 2005; OMIDVAR; KISLOV, 2014; WENGER, 2010).

Cox (2005) describes Lave and Wenger (1991) concept of CoPs as a learning-oriented vision, power relations, and conflicts between the groups, informal configuration, diversity, and heterogeneity of the members, as well as how in-depth the group performs its activities, proposing a different perspective from the cognitive approach, which understands that processes happen in a linear way and through the transmission and absorption of idea. Table 1 summarizes the main aspects of that approach (COX, 2005).

Table 1 - Description of the Lave and Wenger’s (1991) Concept of Communities of Practice

Aspect	Lave and Wenger’s perspective
Concept of community	A group of people involved in a coherent craft or practice, e.g., butchers OR not a neatly defined group at all
Vision of learning	Central and seen as occurring through becoming a member – mostly the socialization of new members by peripheral participation
Power and conflict	Between generations; between master, journeymen, and novice
Change	Gradual change through generations, but rather static
Formality/informality	It could be in the setting of a formal system of apprenticeship, but most learning is seen as informal, i.e., unstructured, unplanned, not taught
Diversity	Masters/journeymen/novices – but the practice itself does not have a high division of labor
Level	Short monograph proposing a theoretical concept in outline

SOURCE: Adapted from Cox (2005, p. 537).

For Dalkir (2017, p. 171), “The social constructivist perspective views knowledge as context-dependent and thus as something that cannot be completely separated from ‘knowers’”. In contrast, the CoPs model proposed by Lave and Wenger addresses learning from a perspective where individuals interact and share information in an informal context, as well as a process in which members engage and identify themselves as part of the group and are co-responsible for the collective learning through practice (COX, 2005), in what is described by the authors as peripheral participation, being “identified as a key process in learning” (COX, 2005, p. 528). Smith, Hayes, and Shea (2017) highlight that Lave and Wenger's approach presents learning from an anthropological lens in which individuals actively participate in the construction of their knowledge and are not just receivers of information.

Lave and Wenger's (1991) study encompasses a “short monograph proposing a theoretical concept in outline” (COX, 2005, p. 537) and a surface reading can lead to shallow interpretations and

misunderstandings of CoPs (COX, 2005, p. 529), contributing to generate “wide-ranging debates that have supported, extended, repositioned or conflicted with these original ideas, generating concept reconceptualization and driving theorization.” (PATTINSON; PREECE; DAWSON, 2016, p. 506–507). During the three decades since original publication, Lave and Wenger’s research and following contributions have been proven influential and applicable in theoretical, managerial and educational scenarios, since CoPs are presented as places of learning and knowledge, even though not being immune to criticism, specially by claims of superficiality or flexibility.

Therefore, the objective of this research is to identify the key authors and the theoretical foundations’ delineation of Lave and Wenger’s concept of Communities of Practice (CoPs) and its relationship with the learning theory, considering their first publication, “Situated Learning: Legitimate Peripheral Participation” (LAVE; WENGER, 1991). It is highlighted the relationship between the key authors, theoretical foundations, and supporting fields of study in which the concept of CoPs has been established.

## **2 Key Elements in the Conceiving of the Concept of Communities of Practice**

Lave and Wenger (1991) establish the concept of CoPs by presenting the elements that structure the members’ discussion and construction of knowledge: (i) legitimate peripheral participation; (ii) practice, person, social world; (iii) empirical studies of learning; and (iv) legitimate peripheral participation in CoPs.

### ***2.1 Legitimate Peripheral Participation***

In Lave and Wenger’s (1991) perspective, the conceptualization of legitimate peripheral participation originates in the practice of individuals, who, in turn, are influenced by the relationships and connections established between them. In this logic, learning practice is built with people, relationships, knowledge, context and environments.

For Pattinson, Preece, and Dawson (2016, p. 507), Lave and Wenger “demonstrate how learning is the product of the activity, context, and culture in which it is developed and used.” Similarly, participation occurs actively, regardless of the individuals’ level of participation, knowledge, and time as members of the group.

In the preface to Lave and Wenger's (1991), William F. Hanks points out that the definition of legitimate peripheral participation expands from a one-off performance of the members to “an interactive process in which the apprentice engages by simultaneously performing in several roles” (LAVE; WENGER, 1991, p. 23) so that the community and its members grow and develop.

The individuals’ participation, as well as the ways and intensities of their engagement, have a central role in the learning process, becoming an element that constitutes the process itself. Conceptually, the authors also add to the term “legitimate peripheral participation” the relationships and connections established and experienced throughout the background and culture of the members (LAVE; WENGER, 1991).

### ***2.2 Practice, Person, Social World***

In conceptualizing practice, person, social world, Lave and Wenger (1991) consider the person who enters a certain group of learners as a newcomer. By engaging with the other members of a CoP, the newcomers, in turn, develop skills, knowledge, and identity within the group until they become experienced members, or, as the authors call it, old-timers. The individuals' engagement, identification, and active participation in the community relate to the "conception of motivation" (LAVE; WENGER, 1991, p. 122). Practice drives the newcomers' engagement, which, in turn, collectively guides group learning because "Communities of Practice have histories and developmental cycles, and reproduce themselves in such a way that the transformation of newcomers into old-timers becomes unremarkably integral to the practice." (LAVE; WENGER, 1991, p. 122).

Similar to the interaction, engagement, and practice processes, the social organization of CoPs is established and permeated by the knowledge of the group members. As the group interacts, the newcomers learn from more experienced members. This way, knowledge and experiences are shared, and the collectively built environment broadens the members' understanding from an individual/personal worldview and perspective of the social group. For Lave and Wenger (1991), all these factors directly linked to CoPs and their members relate to a broader sphere, considered by the authors as the "social world, dialectically constituted in social practices that are in the process of reproduction, transformation, and change." (LAVE; WENGER, 1991, p. 123).

### ***2.3 Empirical Studies of Learning***

Lave and Wenger (1991) address five empirical studies to present accounts of apprenticeship: (i) Yucatec Mayan midwives in Mexico; (ii) Vai and Gola tailors in Liberia; (iii) United States Navy interpreters; (iv) butchers in United States supermarkets; and (v) an Alcoholics Anonymous group. Each of the presented cases shows socially structured processes, collective learning environment, experiences sharing, teaching of newcomers, and constitution of common language and communication within the group, and the sense of belonging (LAVE; WENGER, 1991).

According to Kimble and Hildreth (2004, p. 2), the five groups studied by Lave and Wenger highlight that learning establishes bonds and connections between members. Similarly, the authors point out that:

Lave and Wenger (1991) saw the acquisition of knowledge as a social process in which people participated in communal learning at different levels depending on their authority in a group, i.e. whether they were a newcomer to the group or had been an active participant for some time. The process by which a newcomer learns from the rest of the group was central to their notion of a CoP (KIMBLE; HILDRETH, 2004, p. 2).

The empirical studies made it possible to directly observe the learning/knowledge built through the established relationships and practice, the form of organization of these groups, and the learning in different cultures, enabled by the learners' participation (LAVE; WENGER 1991).

### ***2.4 Legitimate Peripheral Participation in Communities of Practice***

When observing a CoP, it is possible to notice that the interactions and participation of individuals promote a learning "curriculum," which differs from an instruction manual to be followed for ideal practice

— its direction is based on group negotiation, interactions, and practice. Similarly, mastery (expert knowledge) is not centered on the master/old-timer but rather on the structure and organization of the CoP (LAVE; WENGER, 1991). According to Lave and Wenger (1991, p. 94), “the social relations of apprentices within a community change through their direct involvement in activities; in the process, the apprentices’ understanding and knowledgeable skills develop.” In this sense, legitimate peripheral participation is not a process in which newcomers observe and absorb knowledge but a participatory process where learning is built collectively with all members at various levels of engagement.

However, although newcomers have access to the same learning environment as old-timers, their position as newly arrived members in the group warrants them less responsibility:

To be able to participate in a legitimately peripheral way entails that newcomers have broad access to arenas of mature practice. At the same time, productive peripherality requires less demands on time, effort, and responsibility for work than for full participants. A newcomer's tasks are short and simple, the costs of errors are small, the apprentice has little responsibility for the activity as a whole. A newcomer's tasks tend to be positioned at the ends of branches of work processes, rather than in the middle of linked work segments. (LAVE; WENGER, 1991, p. 110).

Elements such as conflicts, power relations, and constant transformations appear in the structure of CoPs and indicate the dynamism and specificity with which each community is established (LAVE; WENGER, 1991).

Finally, one can see that Lave and Wenger (1991) conceive of and build the concept of CoPs with learning as the foundation of a social system, in whose center are the individuals with their specificities and interrelationships. These individuals have an active role and responsibility in the learning process by exchanging knowledge and experiences, however receiving interference from a changing social scenario (social world).

Based on this presentation of the elements that structure how Lave and Wenger build the concept of CoPs, the theoretical foundations, studies, and key authors selected and considered by the two authors to construct their knowledge are presented and discussed in the following sections.

### **3 Methodology**

This bibliographic research (MARTINS; THEÓPHILO, 2009), with a qualitative approach, analyzed the publication “Situated Learning: Legitimate Peripheral Participation” (LAVE; WENGER, 1991). The selection of the references, the data collection, and processing, as well as all analyses and inferences were guided by the objective of the present study: identify the key authors and the theoretical foundations’ delineation of Lave and Wenger’s concept of Communities of Practice (CoPs) and its relationship with the learning theory. In that sense, the following steps have been taken: (i) listing key authors (references); (ii) identifying their theoretical foundations (contributions to CoPs’ concept); and (iii) analyzing the predominant fields of study in the referenced concepts and studies. To this end, data analysis was performed using bibliometric and content analysis techniques.

Bibliometrics subsidized the collection of information for the selection of the main authors, the domain of knowledge, as well as the relevance and progress of the scientific productions used. Bibliometric selection is a support tool for investigations in a given field, area, activity or discipline. It is also used to "map the scientific field and extract useful information for understanding its social and intellectual structure" (HAYASHI, 2012, p. 26). Bibliometrics uses laws and empirical statistical principles. For the research, we consider bibliometric analysis at two moments. First, aiming to analyze the relevance of the authors, as well as their works for academia. For this, two indicators were used:

1. The number of publications: as a quantitative indicator of scientific production (SILVA; BIANCHI, 2001, p. 7), they allow for the measuring of authors' productivity (Lotka's law). According to Lotka (1926), a researcher's contributions to science can be measured by the respective frequency of production. Hence, this step started by searching the Web of Science database, since it is a repository with bibliographic records kept since 1945 (BARRETO, et al., 2013) that provided the following information about the authors of the publications referenced by Lave and Wenger (1991): (i) number of publications of the author indexed in the database; (ii) total number of citations; (iii) the number of articles that made these citations; and (iv) impact of scientific production via h-index<sup>1</sup>.
2. Citation analysis: considered by some authors as the most crucial area of bibliometrics (ARAÚJO, 2006, p. 18) its use in this study sought to verify the following information about the group of authors used by Lave and Wenger (1991): (i) most-cited authors; (ii) most productive authors; (iii) the nationality of the authors; and (vi) area of knowledge each of them most influence. Concomitantly with this survey of the seminal conceptual pillars of CoPs, used to lay the foundation of the concept, the incidence of these authors was observed in relation to the construction of each sub-concept of CoPs in Lave and Wenger's research, followed by the identification of the pattern of connections between the authors and related fields.

After the bibliometric analysis, we observed the incidence of citation of Lave and Wenger's (1991) references by means of Bardin's (2016) content analysis technique. For this, given the qualitative treatment of the collected information, the procedural rigor of Bardin's method (2016) was employed, guided by the following steps: (i) pre-analysis; (ii) exploration of the material; and (iii) treatment and interpretation of results (Figure 1).

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<sup>1</sup> The h-index "gives an estimate of the importance, significance, and broad impact of a scientist's cumulative research contributions" (HIRSCH, 2005, p. 16572).

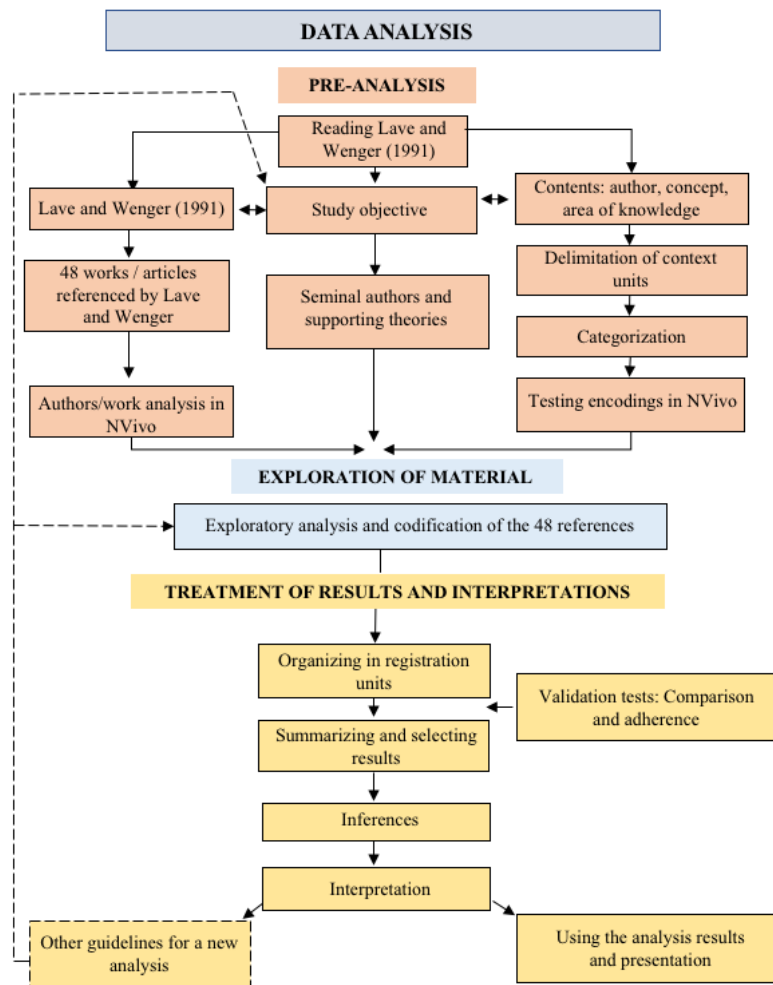


Figure 1 - Graphical Framework of the Development of Content Analysis  
 Source: The authors (2022), adapted from Bardin (2016, p. 132).

The pre-analysis stage verified the research objective, thus leading to the selection of the research documents, consisting of the 48 works/articles referenced by Lave and Wenger (1991). The research material pre-analysis also employed the technique of material exploration procedures. According to Bardin (2016), this exploration procedure allows analysis to take place without biases, allowing “to learn that the connections between the different variables work according to the deductive process” (BARDIN, 2016, p. 129).

From pre-analysis, the process went on to the exploration of the material, with delimitations and codification, including applying units (selection), rules of counting (enumeration), and categories (classification and aggregation) (BARDIN, 2016). Registration and the units were considered. The former is the unit of codified meaning and corresponds to the segment of content considered the basic unit, seeking the categorization and frequency count (BARDIN, 2016, p. 134). The latter is synthesized as a unit of understanding for encoding the unit of record and corresponds to the segment of the message (BARDIN, 2016, p. 137). Figure 2 shows the application of these units in the present research.

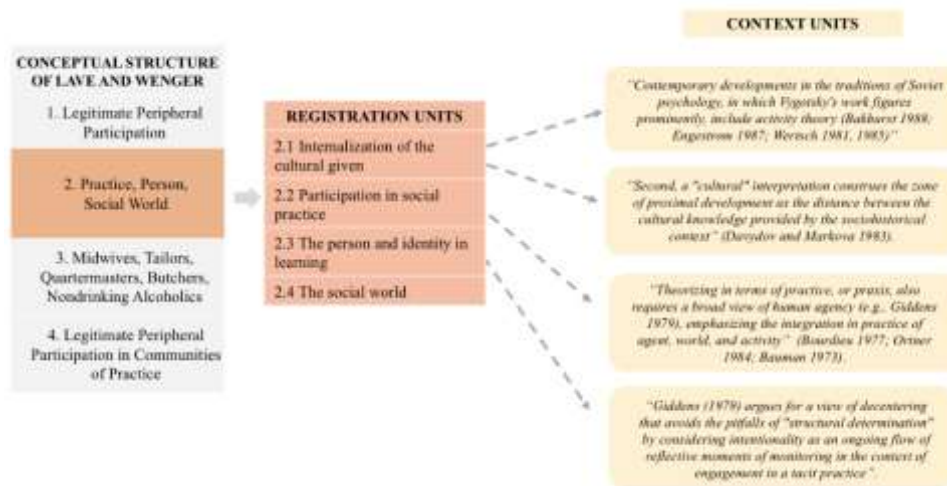


Figure 2 - Example of the Relationship between Registration and Context Units

Source: The authors (2022)

The registration units were defined based on the divisions of Lave and Wenger's (1991) conceptual discussions into the following four major themes: (i) legitimate peripheral participation; (ii) practice, person, social world; (iii) empirical studies of learning; and (iv) legitimate peripheral participation in CoPs.

The counting rules considered the distinction between the registration unit — what is counted — and the enumeration rule — the counting mode (BARDIN, 2016, p. 138). In this case, we used frequency measuring, which indicates that the importance of the registration unit is linked to the number of times that it appears in the analyzed material (BARDIN, 2016).

Regarding categories, considered “headings or classes” that gather elements (registration units, in the case of content analysis) under a generic title, they are grouped based on common characteristics of these elements (BARDIN, 2016, p. 147). For such definition and classification, we adopted the procedure of including categories without pre-definition and that are, therefore, defined based on the identification of the information pertinent to the research (BARDIN, 2016).

Finally, the treatment and interpretation of results, the bibliometric analysis, and the content analysis from exploring the material was conducted with the support of the NVivo software, especially for importing data from multiple sources and documental extensions, coding to identify themes and trends, as well as graphical visualization (NVIVO, 2022).

## 4 RESULTS

According to Urbizagastegui (2008, p. 87), the generation of new knowledge is directly related to the development of new research and the rule states that research is only finished when it is published. In this sense, scientific production reflects the result of research and new knowledge generated in academia and peer acceptance in its use. The impact of these researches guides studies and investments in their respective fields of study. According to Wainer and Vieira (2013), quality measurement of a research is based on the analysis of their peers and by the academic community of the corresponding area of knowledge. Therefore,



impact factors, h-index, and the number of citations of articles are some of the criteria used to assess the importance of scientific production in the academic context (WAINER; VIEIRA, 2013).

From this perspective, the concept of CoPs and the construction of knowledge recorded by Lave and Wenger (1991) are based on 48 publications, among books, articles, and reports. These publications comprise studies and works carried out by 47 key authors and co-authors, as shown in Table 2.

Table 2 – Key Authors for Lave and Wenger (1991)

<b>KEY AUTHORS</b>		
Anastasia Konstantinovna Markova	Hans Medick	Michael W. Coy
Anthony Giddens	Hass, M.	Ole Dreier
Blanche Geer	Howard Saul Becker	Patricia Greenfield
Brigitte Jordan	Jack Hass	Peg Griffin
Carole Cain	James V. Wertsch	Pierre Bourdieu
David Bakhurst	Jane Fajans	Sharon Traweek
David Wood	Jean Lave	Sherry B. Ortner
Edwin Hutchins	Jerome S. Bruner	Stack, C.
Esther N. Goody	Julian Edgerton Orr	Stuart Hall
Etienne Wenger	Karl Marx	Sylvia Scribner
Eugene Cooper	Klaus Holzkamp	Terence P. Turner
Evald V. Ilyenkov	Lucinda Ann Alibrandi	Vasili V. Davydov
Gail Ross	Mariane Hedegaard	William F. Hanks
Garner, J.	Meyer Fortes	Yrjö Engeström
Grosshans, R. R.	Michael Cole	Zygmunt Bauman
Hannah Meara Marshall	Michael Kearney	

Source: The authors (2022).

To identify the authors and develop Chart 2, the references presented in Wenger and Lave's (1991) book indicated the work and the abbreviation of the authors' names, omitting information regarding the full name and verification of each of the authors and co-authors. Thus, to complement these pieces of information, a search was conducted in Web of Science<sup>2</sup> through the field "Author Search," combining the abbreviation of the surname and the first letter of the name (as indicated in the reference). Then, the authors for whom uncertainties remained went through a second refinement, in which their full names, followed by co-authors', and titles of the articles were checked. Concurrently, a wide search was carried out on the internet to identify information regarding the publication, authors, locations of activity, and fields of study and research.

In this sense, as shown in Chart 2, the group of authors brings together individuals of academic notoriety and individuals who present occasional works and subtle academic productions. To analyze the

<sup>2</sup> The selection of Web of Science was due to its comprehensiveness and coverage of all fields of study, combining the interface with the ResearchID (author identifier) and bibliometric analysis tools, for the retrieval of information (BRASIL, 2020).

impact of the authors selected and used by Lave and Wenger (1991) and the relevance of the referenced materials, we analyzed (from the Web of Science database, from June to July 2020) the impact (h-index) of each author and work. The 15 individuals with an h-index above 10<sup>3</sup> were highlighted (Table 3).

According to Lotka (1926), an author who developed and established a relationship between the frequency of production of individuals and their contributions to the sciences, “it would be of interest to determine, if possible, the part which men of different caliber contribute to the progress of science.” (LOTKA, 1926, p. 317). In this sense, the measurement of the impact of researchers and their relevance to science has as one of its metrics the productivity through the publications of these researchers (LOTKA, 1926; POTTER, 1981; URBIZAGASTEGUI, 2008).

Despite that, this approach is surrounded by criticism from the scientific community, rooted in the academic productivism perspective. Thus, this analysis using the h-index does not intend to reinforce that productivist logic or qualify one author over another. However, as explained by Urbizagastegui (2008, p. 87):

(...) scientific activity must take the form of written documents validated and legitimized by the scientific community. The set of these documents, in turn, constitute important indicators of the stage of development of an area of knowledge (URBIZAGASTEGUI, 2008, p. 87).

Corroborating Urbizagastegui (2008), Hirsch (2005, p. 16569) states that “The publication record of an individual and the citation record clearly are data that contain useful information.” In this sense, the production and citation indices presented aim to assist in the selection, perform a cutout of the authors, and elucidate the peer validation for the studies that Lave and Wenger (1991) used to coin the concept of CoPs. For this, we observed that 11% of the authors had an h-index above 20, 21% between 10 and 19, and 49% between 0 and 9. A group of 19% of the authors did not have a calculated h-index, as presented in Table 3.

Table 3 - High-Impact Authors

Authors	Web of Science Authors	h-index	Publications	Citations	Publications That Make Citation
<b>Jerome S. Bruner</b>	Bruner, JS; Bruner, Jerome; Bruner, Jerome S.; Bruner, J Bruner, J. S.	36	145	12,070	10,755
<b>Patricia Greenfield</b>	Greenfield, PM; Greenfield, Patricia M.; Greenfield, P; Greenfield, Patricia; Greenfield, P. M	32	142	5,269	4,294
<b>Pierre Bourdieu</b>	Bourdieu, P; Bourdieu, Pierre	28	57	5,342	4,879

<sup>3</sup> A threshold of 10 was established for the h-index in order to make a selection among the group of authors, evaluating the individuals with the highest h-index, considering Hirsch's (2005) statement that while the h-indexes may vary according to the researchers' areas of work, “a high h is a reliable indicator of high accomplishment” (HIRSCH, 2005, p.16571).

<b>Yrjö Engeström</b>	Engeström, Yrjö; Engeström, Y; Engeström, Yrjö; Engeström, Yrjö; Engeström, Yrjö	26	74	3,006	2,109
<b>James V. Wertsch</b>	Wertsch, JV; Wertsch, James V.; Wertsch, James; Wertsch, James, V; Wertsch, J. V.	22	98	2,337	2,062
<b>Zygmunt Bauman</b>	Bauman, Zygmunt; Bauman, Z; Bauman, Z.	19	224	1,415	1,209
<b>Howard Saul Becker</b>	Becker, Howard S.; Becker, HS; Becker, Howard; Becker, H. S.	16	58	4,004	3,757
<b>Edwin Hutchins</b>	Hutchins, Edwin; Hutchins, E; Hutchins, Edwin L.; Hutchins, EL	16	24	1,949	1,755
<b>Anthony Giddens</b>	Giddens, A; Giddens, Anthony; Giddens, A.; Giddens, Anthony (Lord)	14	147	603	539
<b>Anastasia Konstantinovna Markova</b>	Markova, AK; Markova, Anastasia K.; Markova, A. Markova, AK; Markova, Anastasia K.; Markova, A.	14	71	563	449
<b>Sherry B. Ortner</b>	Ortner, SB; Ortner, Sherry B.; Ortner, Sherry; Ortner, S	12	42	2,458	2,355
<b>Etienne Wenger</b>	Wenger-Trayner, Etienne; Wenger, Etienne; Wenger, E	11	22	2,210	2,120
<b>William F. Hanks</b>	Hanks, William F.; Hanks, WF; Hanks, William	11	50	778	692
<b>Vasili V. Davydov</b>	Davydov, VV; Davydov, V.V.	10	157	514	299
<b>Klaus Holzkamp</b>	Holzkamp, K; Holzkamp, Klaus	10	27	244	171

SOURCE: The authors (2022), based on data retrieved from Web of Science (2020).

In order to observe the influence of the authors on academia and on the construction of Lave and Wenger's knowledge, we first analyzed the authors who had an h-index above 20: Jerome Bruner, Patricia Greenfield, Pierre Bourdieu, Yrjö Engeström, and James V. Wertsch. Jerome Bruner is from the field of psychology and his contributions to the constructs of CoPs begin with his focus on studies that seek to understand the human mind, mainly cultural psychology, the narrative and the construction of meanings (CORREIA, 2003, p. 506).

Also, from the area of psychology, Patricia Greenfield adds knowledge about the relationship between culture and human development. She "studied three generations of child development and socialization in a Maya community in Chiapas, Mexico, as the community experienced a radical shift in their way of life and economy from subsistence and agriculture to money and commerce." (UCLA PSYCHOLOGY, 2022, unpagged).

From both the sociology and philosophy fields, Pierre Bourdieu presents discussions on social structures and, according to Thiry-Cherques (2006, p. 28), his theory turns to a critical function, that of the unveiling of the social articulation. The adopted method lends itself to analyzing domination mechanisms, production of ideas, and genesis of conducts.

Yrjö Engeström, from the field of education, is tied to the “theory of expansive learning”. The author's studies turn to the “cultural-historical activity theory as a framework in studies of transformations and learning processes in work activities and organizations.” (UNIVERSITY of HELSINKI, 2022, unpagged). Finally, the anthropologist James V. Wertsch, through his studies on “sociocultural analysis,” expands the discussion presented by Vygotsky. For this, Wertsch outlined Vygotsky's theory under three prisms (PEREIRA; OSTERMANN, 2012, p. 24):

- (a) the reliance on the genetic or evolutionary method; (b) the assertion that an individual's higher mental functions derive from social life; (c) the assertion that human action, both at the individual and social level, is mediated by instruments and signs (PEREIRA; OSTERMANN, 2012, p. 24).

Based on studies by these four authors, it is possible to observe that individuals are focused on their social structure and cognitive processes and behavioral development. Theories and concepts developed by high-impact key authors relate directly to the construction of learning in a CoP, just as the authors Jerome Bruner, Patricia Greenfield, Pierre Bourdieu, Yrjö Engeström, and James V. Wertsch ground the conception of “practice, person, social world.”

Afterward, we analyzed the authors with h-index between 10 and 19: Zygmunt Bauman, Howard Saul Becker, Edwin Hutchins, Anthony Giddens, Anastasia Konstantinovna Markova, Sherry B. Ortner, William F. Hanks, Vasili V. Davydov, and Klaus Holzkamp. Based on these authors' backgrounds, Sherry B. Ortner, Edwin Hutchins, and William F. Hanks stand out in the field of anthropology. Ortner played a central role in the institutionalization of the feminist anthropology field in American universities, the same way that her studies focus on issues of anthropology, feminism, and the theory of practice (DEBERT; ALMEIDA, 2016, p. 1).

Hutchins turns to cognitive processes in the “natural habitat” of individuals, as well as the interactions and practices of an environment/culture. In this sense, his scientific contributions include “human cognition in social, cultural and material context” (UC SAN DIEGO'S, 2022, unpagged). Hanks “studies the history and ethnography of Yucatan, Mexico, and Yucatec Maya language and culture [...] He examines the organization and dynamics of routine language use (semantics, pragmatics, interactional sociolinguistics and the social foundations of speech practices)” (BERKELEY ANTHROPOLOGY, 2022, unpagged).

Zygmunt Bauman, known as a humanistic sociologist, studies contemporary society themes directly related to the individual. They permeate individuals and their relationships with others and with the world, professional links, identities, and behaviors (SANTOS, 2014). According to Santos (2014, p. 102), based on qualitative and quantitative analysis, Bauman presents the everyday life of human beings and an eclectic and insightful look that goes beyond the academic canons. His forcefulness still marks his texts to the ethical and humanitarian issues inherent to the human condition.

Howard Saul Becker, a sociologist who became a reference in the area by studying a group of Jazz musicians, makes contributions to the social sciences and science in general by studying the labeling phenomena, the “labeling theory” or labeling (WERNECK, 2008, p. 158). In this sense, the author takes

an empirical look at how human behavior and its processes happen, including the analysis of processes that make individuals act in a “deviant” way (WERNECK, 2008, p. 165). Next, Anthony Giddens, also from sociology, discusses social systems and establishes himself by discussing structuration theory. According to Silva (SILVA, 2014, p. 125):

In short, this theory seeks to resolve the dualism between action and structure (in which one of the dimensions is overvalued to the detriment of the other), transforming it into a duality in which neither dimension has explanatory priority and one depends on the other. This fundamental metatheoretical thesis of Giddens is expressed as the “duality of structure” [...] In his work, both action and structure are reworked: the former as a chain of causal interventions of skillful agents in a world that is not predetermined, linked to the notion of praxis; the latter as a virtual set of rules and resources that is only instantiated in action. Structure not only restricts action, but also allows it (SILVA, 2014, p. 125).

Anastasia Konstantinovna Markova and Vasili V. Davydov, both from the field of psychology, in their studies in general and, more specifically, in the one referred to by Lave and Wenger, consider that “for human action to be endowed with the properties of activity, it is essential that the subject formulates and accepts the goals toward which his actions are directed” (DAVYDOV; MARKOVA, 1983, p. 50). To elucidate this statement, the authors add “that [the] discovery of [...] [its] goals is essential to true activity. Translated more roughly back into dialectical materialist philosophy, it means that freedom is the recognition of necessity” (DAVYDOV; MARKOVA, 1983, p. 51). Klaus Holzkamp, also from psychology, presents contributions to the social sciences with his studies aimed at understanding the relations of power and control, the same way that his conceptual foundations are in the idea of the individual and the influence of the environment in which individuals are inserted. In this sense, under his prism, “Human beings are historical magnitudes and owe their significance not to some seemingly inherent natural qualities but rather to the historical context in which they find themselves entangled” (PAPADOPOULOS, 2009, p. 162).

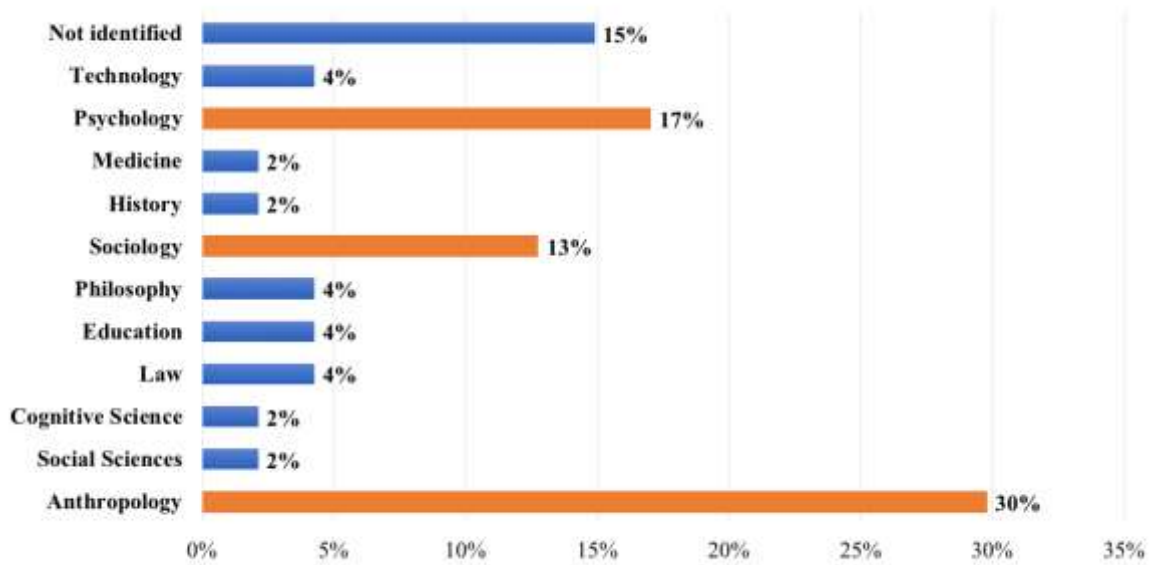
Zygmunt Bauman, Anthony Giddens, Anastasia Konstantinovna Markova, Sherry B. Ortner, Vasili V. Davydov, and Klaus Holzkamp focus on individuals, their behaviors, interactions, and environment/culture, as well as individual and cognitive learning processes. Thus, from their incidence of frequency and citations in Lave and Wenger’s work, these authors ground the conception of “practice, person, social world.”

Finally, authors Yrjö Engeström, Vasili V. Davydov, Edwin Hutchins, and Pierre Bourdieu are also referenced as theoretical contributions to the concept of “legitimate peripheral participation in Communities of Practice”.

Social theory permeates the concepts of the authors described above and, under Lave and Wenger’s (1991) perspective, the contributions that social practice theory brings to their study are:

the relational interdependency of agent and world, activity, meaning, cognition, learning, and knowing [...] This view also claims that learning, thinking, and knowing are relations among people in activity in, with, and arising from the socially and culturally structured world (LAVE; WENGER, 1991, p. 50-51).

It is considered that the construction or result of research contains elements of the researchers' area of activity and the direction or specialized approach that the scientific career requires of individuals or groups of researchers. In this sense, Lave and Wenger's (1991) knowledge and the construction and origin of the concept of CoPs can be considered a result of interdisciplinary practices (Graph 1), considering Wenger's professional and academic activities and practice in the fields of computer science, business, and anthropology, as previously mentioned.

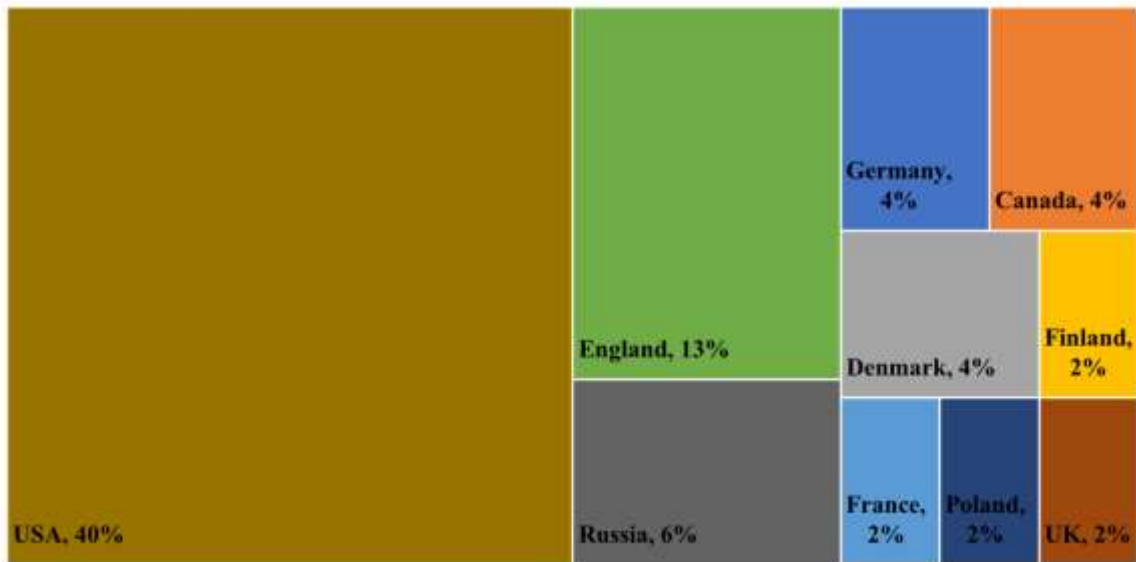


Graph 1 - Areas of Greatest Influence in the Construction of the Concept of CoPs

SOURCE: The authors (2022), based on Lave and Wenger (1991).

Based on Graph 1, constructs of CoPs are predominantly structured in three fields of knowledge: anthropology, psychology, and sociology. From this perspective, it can be considered that the concept of CoPs brings together elements of studies directly linked to each of these sciences — aspects of the life of individuals in the social and cultural spheres (anthropology), human behavior (psychology), and social phenomena (sociology) — and also adds elements from other areas. Based on these observations, it is possible to consider that the concepts of CoPs are built in an interdisciplinary manner mainly by anthropology, psychology, and sociology, as well as, in a peripheral way, by the fields of technology, history, philosophy, education, law, and medicine.

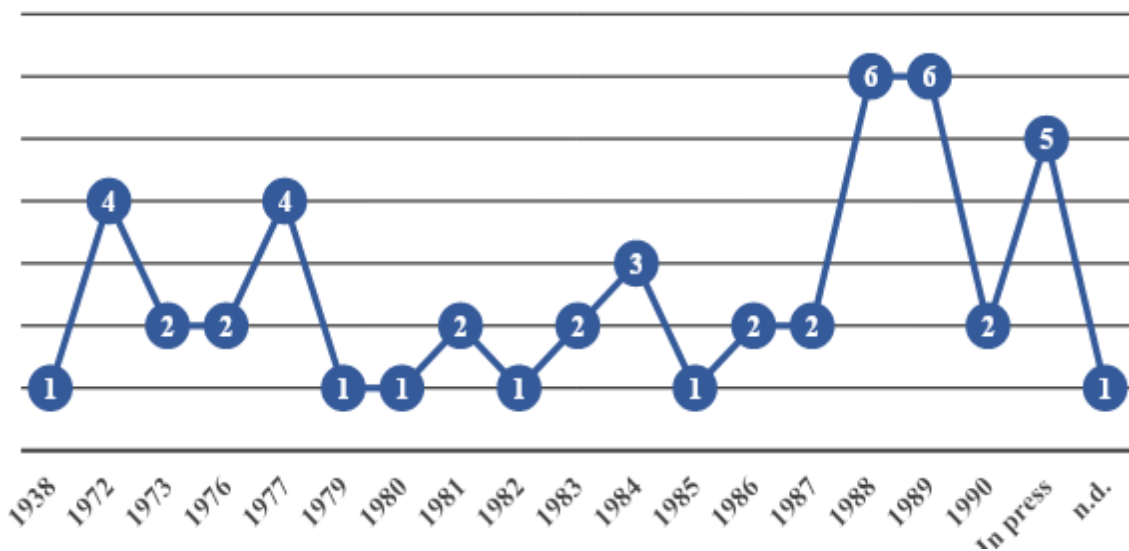
In addition to the authors' production, the relevance of scientific publications in their respective fields of study can also subjectively rely on factors such as the region where the researchers operate and the selected works' historical period and temporality. In this context, we observed that the authors selected and used by Lave and Wenger (1991) worked or still work in North American or European cultures (Graph 2).



Graph 2 - Key Authors’ Regions of Operation

SOURCE: The authors (2022), based on Lave and Wenger (1991).

The authors used by Lave and Wenger are mostly located (44%) in North America (the United States and Canada). Next, in Europe (Germany, Denmark, Finland, France, England, Poland, and the United Kingdom), with 30%. Finally, in Europe/Asia (Russia), with 6%. It was also possible to observe that 19% of the authors’ regions of operation were not identified. Similarly, in the selected papers, considering that the work by Lave and Wenger is dated 1991, we observed that 50% of the publications used are from 5 years (1986-1991) before the publication of Lave and Wenger’s work (Graph 3).



Graph 3 - Publication Year of the Used Papers

SOURCE: The authors (2020), based on Lave and Wenger (1991).

The identification of the region and temporality of the articles was conducted to provide information for future studies on the theoretical path of the concept of CoPs, since these data can shed light on materials to be analyzed in subsequent works and correlations. Similarly, as Silva (2014, p. 214) highlighted that the

1970s, as we know, was a very troubled period in political, economic, and cultural terms, which influenced the social theory of this period. In this sense, works published after this period may reflect this political and economic scenario and seek to resolve problems of this nature. It is up to this research to observe the temporal and regional cutoff of the materials used by Lave and Wenger.

## 5 Conclusion

This article aimed to identify the key authors and the theoretical foundations' delineation of Lave and Wenger's concept of Communities of Practice (CoPs) and its relationship with the learning theory, considering as a starting point the references adopted in their first publication, "Situated Learning: Legitimate Peripheral Participation" (LAVE; WENGER, 1991). Therefore, we sought to highlight the relationship of the key authors, the theoretical foundations, and the supporting fields of study with which the concept of CoPs was established, as well as the impact on the learning theory and related interdisciplinary areas. The research and analysis of the 48 references indicated in Lave and Wenger's work allowed us to observe a group of 47 key authors from which they built the basis of the concepts of CoPs.

Through the impact and relevance of these authors to academia, it was identified a total of 15 with an h-index above 10. Likewise, the incidence and citation frequency of those authors was analyzed, indicating researchers such as Jerome Bruner (1976), Patricia Greenfield (1984), Pierre Bourdieu (1977), Yrjö Engeström (1987), James V. Wertsch (1981; 1985), Zygmunt Bauman (1973), Howard Saul Becker (1972), Edwin Hutchins (In press), Anthony Giddens (1979), Anastasia Konstantinovna Markova (1983), Sherry B. Ortner (1984), William F. Hanks (1990), Vasili V. Davydov (1983), and Klaus Holzkamp (1983). We also found that the interdisciplinary nature of the concepts of CoPs is mainly constituted of three fields of study: anthropology, sociology, and psychology.

From the analysis of the authors referred to in the work of Lave and Wenger (1991), it is observed that Lave and Wenger's construction of knowledge about legitimate peripheral participation, practice, person, social world, empirical studies of learning, and legitimate peripheral participation in communities of practice are constituted and permeated by elements focused on the construction of learning, coming from interdisciplinary conceptual bases.

Some conceptual foundations were originated from anthropology dealing with sociocultural analysis (James V. Wertsch), theory of practice (Sherry B. Ortner), and cognitive processes and interaction with the environment and culture (Edwin Hutchins). Similarly, from psychology, with its focus on understanding the human mind (Jerome Bruner), the relationship of culture and human development (Patricia Greenfield), understanding power relations and control (Klaus Holzkamp). Likewise, from sociology, with its approach to social structures (Pierre Bourdieu), social systems (Anthony Giddens), contemporary issues, the individual's relationship with others and the world (Zygmunt Bauman), and its focus on human behavior and processes (Howard Saul Becker).

It can be seen from the elements and conceptual bases that the constructs of CoPs, in light of Lave and Wenger (1991), bring contributions from the areas addressed, as well as these discussions and elements are incorporated into the perspective of the individual's learning process. In this sense, the authors conceive the constructs of CoPs, based on the interaction of individuals, through socialization, in which members



and newcomers have a commitment and responsibility for the group's learning. In the same way that learning is based on a social system influenced and being influenced by this system.

Therefore, learning takes place through social interactions, which is in line with Vygotsky's (1896 - 1934) thought when he considers the individual as an eminently social being and learning as a direct result of social interaction processes. Thus, behavior, environment, and interaction between people are components that influence the learning process. Lave and Wenger's thought considers human beings in their social dimension capable of making sense of knowledge through their experiences and their involvement in society. Social learning considers that the individual is not only active, but mainly interactive. Individuals build knowledge from interpersonal and intrapersonal relationships.

Learning from the perspective of Lave and Wenger (1991) brings the focus on the individual, in individual processes, in its collectivity with the group, seeking to engage new entrants and making use of their knowledge and experiences established with a "social world, dialectically constituted in social practices in the process of reproduction, transformation and change" (LAVE; WENGER, 1991, p. 123). This view corroborates what was exposed by the authors Bauman, Giddens, Markova, Ortner, Davydov and Holzkamp, who approach the individual, in an integral way, from their connections, behaviors, cognitive processes and permeated by an internal environment (the CoPs itself) and external, with changes, transformations and adaptations.

The social context of the CoPs is a key factor in the process of interactions, connections, and learning, according to Lave and Wenger, given that the involvement of members in this environment, with new entrants and with the activities proposed by the group, adds new learning, new skills, and individual and collective knowledge are developed. The environment provided for learning dialogues with the approaches of Engestrom, Wertsch, and Hutchins, who deal with learning processes by observing the individual in his environment, his relationships and interferences.

Regarding the publications, the temporality was observed, 50% of them were from 1986 to 1991, 5 years before the publication of Lave and Wenger's work. The most referred authors were predominantly located in North America and Europe. Identifying the references' geographic location and time frame can provide additional information for further analyses.

This research sheds light on the proposition of future studies that present an in-depth discussion of the social theory and conceptual elements of CoPs addressed by Lave and Wenger (1991). Furthermore, it offers reflections on the 30-year trajectory of the studied concepts, addressing their conception, development, and flexibility based on an adaptation to a managerial market scenario. The construction of these concepts, from their historical, local, and global moment and their political and economic contexts, was also addressed. Furthermore, this research conducted analyses that observed the extension of the concepts to the organizational context and other diverse fields of study. Finally, it analyzed the terminological unfoldings, based on elements and characteristics, which resemble CoPs to theories encompassing varied formal and informal arrangements.

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