

***Collaboration, Situated Learning, and Citizenship:
The Importance of Communities of Practice in a Technical Baking Course***

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Abstract

Situated Learning Theory considers learning to be socially constructed and grounded in concrete situations, viewing knowledge not as primarily abstract and symbolic but as provisional, mediated, and socially constructed, with intersubjective meanings attributed to shared practices. This study aimed to understand, considering the aforementioned approach, the construction of collaboration as a driver of the learning process in a group of students from a technical baking course, conceived as a community of practice at a technical and technological education institution in southern Brazil. Data were collected through direct observation over a period of four months in 2024, during practical workshops linked to activities that integrate the educational institution with the external community (extension projects). Additionally, semi-structured interviews were conducted with the participating students after the workshops. Based on the collected data, it was possible to identify, at varying degrees, several elements inherent to the genesis of communities of practice presented by the selected theory, such as environment/context, leadership, connectivity, and formal/informal learning. It is worth noting that the participation of these students in the workshops, in addition to consolidating technical knowledge, also enhanced their understanding of the tacit values inherent in food production and their commitment to citizenship, promoting more effective engagement in their professional practices through a more humanized education.

Keywords: Community of Practice, Baking, Technical Education, Extension Projects

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Introduction

Situated learning and the concept of a community of practice have emerged as transformative ideas in understanding how learning occurs in real-world contexts. Unlike traditional views that often separate learning from the context in which it is applied, situated learning emphasizes that knowledge is inherently tied to activity, culture, and social interaction. Grounded in the work of Lave & Wenger (1991), this approach challenges the notion of knowledge acquisition as a decontextualized, individual process. Instead, it portrays learning as a participatory act deeply embedded in the practices of a specific community.

A key component of situated learning is the community of practice, a group of individuals who share a concern, set of problems, or passion for a particular domain and learn how to improve their practice through regular interaction. Communities of practice provide the social framework within which individuals transition from peripheral participation to full membership, gaining expertise by engaging in shared practices, dialogue, and problem-solving. This dynamic process underscores the social dimensions of learning, highlighting the critical role of collaboration and shared experiences.

The goals of this study are to understand the collaboration of extension workshops in the training of students on the technical course in baking; apply the theory of situated learning; and identify the elements present in the group of students of the technical course in baking that characterize a community of practice.

Through direct observation in workshops and semi-structured interviews, the aim of this study was to understand the role of collaborative interactions between members of the external community, participants in extension projects, and students of the technical course in baking, in the development of social and technical skills. Specifically, the study focuses on the observation of participants and how they managed to organize their informal processes of practice in the real world, learn from others, and produce authentic products in a peer-supported environment. It was noticed that through participation in community activities consisting of workshops related to extension projects, both students and external participants are involved in interactions that promote collaborative and situated learning.

Methodology

Context

The federal Institute of RS has 18 units that make up the same Institution, managed by a headquarters called the rector. At IFRS *campus* Osório there is a Bakery Laboratory, where practical classes and workshops for projects involving people from the community took place this year: people who sell bakery products at family farming fairs in the city of Osório and mothers of children under 3-year-olds participating in a program called Better Early Childhood.

It was in this laboratory, on the practical classes of the technical baking course subjects, that the community of practice exemplified in this study organically emerged. All students (n = 18) on the baking course who started in 2024 were invited to participate in two extension projects, which are actions developed at the institution that involve individuals from the community. Some became interested and started to contribute to these actions as volunteers. Students made the commitment to organize the laboratory, supplies and equipment in

advance, as well as assist in teaching techniques and attitudes of external participants and in cleaning and organizing the space afterwards.

The data collection was realized through direct observation and semi structured interviews. The focus of observations were workshops that connect education, internal and external community. After each workshop, students expressed their impressions and exchanged experiences within the group. Semi structured interviews were applied to organize and systematize their impressions about the collective work they had been developing, as well as the challenges and opportunities they saw.

Results and Discussion

In baking education, collaboration between students and outside community members fostered a dynamic learning environment where everyone could share diverse perspectives and techniques. This interactive approach not only enhances skill acquisition but also cultivates a sense of community among students and outside community members. Working together allows students to navigate complex concepts, such as the delicate balance of ingredients and baking methods, while encouraging constructive feedback and innovative experimentation. By fostering inclusive discussions during baking workshops, participants can mitigate biases, ensuring that all voices are heard and that learning outcomes are optimized. Ultimately, collaboration enriches both the educational experience in baking education and supports outreach learning spaces, fostering a culture of trust and collective growth that is essential for the development of personal and professional values.

Thus, the main focus of learning is social participation in social communities, building identities, a sense of belonging, shaping what is done and how to be, and interpreting and understanding what is done. As a result, observations during the workshops allowed us to identify the three characteristics that define a community of practice:

- a) It is the result of a collective negotiation process, where relationships of mutual responsibility are built among participants.
- b) It has mutual commitment, where collective effort generates belonging. The practice exists because there are people engaged in actions whose meaning is mutually negotiated. Each participant is an individual with their own identity and the various identities will be interconnected in different ways, and where disagreements can be seen as forms of participation.
- c) It has a shared repertoire of material and symbolic resources that carry the history of the community. Routines, words, stories, tools, ways of doing, gestures, symbols, genres, actions, concepts that the community produced or adopted and that have become part of its practice. The repertoire is the discourse through which members of a community create meaningful statements about the world, the way in which they express their forms of affiliation and identity, the resource for negotiating meanings. This repertoire carries a history of mutual engagement and is ambiguous, which, while hindering change, generates new meanings. Therefore, learning involves participation in practices and the construction of identities from them. The knowledge acquired is the result of the individual's active participation and engagement in the world. Learning implies changes in personal histories, a recontextualization of subjects based on shared routines (Paixão, 2014).

For Wenger (2011), participation is "taking part in something" and the construction of meanings and objectification of experience.

In the interviews, the students expressed a feeling of belonging to a category because they shared typical values of the profession. Words such as quality, standard, commitment and responsibility indicated this stance. Peer collaboration significantly deepens the learning experience, as engagement in teamwork fosters a dynamic environment where workshop participants can exchange knowledge, solve challenges, and refine techniques together. This active learning process aligns with findings that highlight the value of engaging learners in real-world scenarios, allowing them to transfer knowledge into practical contexts (Rodríguez-Luna, 2024). At the same time, as external participants work on tasks collaboratively, they become better equipped to navigate complex decision-making processes. Intertemporal decision-making, such as recognizing when to incorporate ingredients or how to adjust cooking times, illustrates the need to approach tasks collectively; also, studies indicate that individuals often have different perceptions of these critical time-related choices (Fagerholm et al., 2023).

Engagement in educational settings in the laboratory setting can be significantly enhanced through collaborative learning, which fosters deeper interactions among students and between students and other participants. This approach aligns perfectly with the principles of situated learning, as it allows everyone involved in the baking workshop to actively participate in the joint construction of knowledge. By participating in group activities, students not only contribute their perspectives, but also challenge and refine their understanding in real time, reinforcing their commitment to the learning process (Kühn et al., 2023). Furthermore, adopting a reflective stance towards the community can further enhance engagement, that is, when participants perceive their contributions as valuable, a supportive environment conducive to exploration is created (Howell et al., 2021). On that account, collaborative learning not only boosts engagement, but also cultivates an inclusive atmosphere, essential for effective learning and exchange.

Creating an environment where baking students feel a strong sense of community can significantly increase their motivation and learning outcomes. Students in baking technical programs thrive when they engage in collaborative activities that promote teamwork and allow for the sharing of experiences. By cultivating a supportive atmosphere, students can communicate openly and learn from each other's successes and challenges, thereby reinforcing their commitment to their work.

Students learned by practicing together, reinforcing the theory of situated learning; the professional knowledge they developed was not restricted to technique. The identity that is built through doing involves the ethics of care and companionship, elements that add vision to the understanding of oneself, one's profession and one's community. Identity in this case is not a personal and individual elaboration, but rather the result of sharing knowledge and values. It is, in this way, socially constructed. Lave & Wenger's (1991) indications are congruent with what was observed in the technical course in baking. Collaboration between students facilitated the exchange of knowledge and skills (technical and social).

This means that there is no activity in isolation, therefore, activity only exists in a system of relationships where life trajectories, member relationships, and experiences that will lead to social belonging and define the individual are involved (Paixão, 2014). In this way, the subjects in productive practices are historical, situated, concrete, marked by a culture, creators of their consciousnesses that, at the same time, produce and reproduce social reality, while being produced and reproduced by it (Freitas, 1996).

Based on the historical-cultural view, where learning takes place in a social context through historically developed social practices, Wenger (2010) states that activities, tasks, functions, and understandings are parts of a system of relationships where they gain meaning and are socially shared, giving rise to communities of practice. These communities are formed around a specific task that must be carried out by their members, linked by a history and common interests, which makes learning and practice occur simultaneously, which the author calls collective learning. Wenger (2002) explains the community of practice as made up of a group of individuals who share a common enterprise, it is a collective subject capable of learning, which will compose an identity and a sense of belonging, creating a repertoire of symbolic and material resources.

From the interviews it was possible to identify the following key elements of communities of practice: leadership; connectivity; formal/informal learning. Committed to the collective meaning of practice and work, produced with criticality, inventiveness and environmental and social responsibility, students actively seek the interrelationship between popular knowledge and formal knowledge. The construction of identity based on the pillars of knowing how to do things well, the feeling of belonging and the chance of being was confirmed in the semi-structured interviews with the group of students. All of them come from social backgrounds with very different education levels and ages, and stated that the time they spent participating in these practical activities resulted in a new vision of themselves. They said they learned this through work. Professional identity in this case is not a personal and individual elaboration, but rather the result of sharing knowledge and values. It is, consequently, socially constructed.

Students, through collaboration, attributed joint meanings to their experiences and learning. The observations carried out indicate that students learn to care about others. This other reveals itself in different ways: co-workers, equipment, inputs and environment. In all cases, students learn to respect each other. This learning is always experiential, relational. It is not the mere application of principles, but the construction of a professional ethos.

The group of students divided the tasks and talked about each step to be developed. The division of labor imposes the need for cooperation so that the activity is well executed, and everyone involved needs to be responsible. Engagement results in meaning. In this context, meaning is a perception that is almost never translated into words. An example of this is preparing bread dough. As the dough is made, there is a constant experimentation of the consistency via touch. The description of the sweet spot is described by words, but the understanding needs to be confirmed by tactile perceptions. It is not possible to learn without involvement with the raw material being transformed.

Hence, learning emerges from participation in communities of practice (Lave & Wenger, 1991; Wenger, 1998), from social interaction, collaboration and engagement. In short, communities of practice are formed by individuals who engage in a process of collective learning by getting involved in something they do or learn to do together as they interact, producing negotiated meanings, a common repertoire and mutual engagement (Wenger, 1998). Knowledge, for that reason, becomes what is acquired in practice, the result of active participation and engagement in the world.

Conclusion

Communities of practice represent the moment when people engage in the same practice, sharing what they are experiencing and learning. As a result, they begin to recognize each other as partners, benefiting from mutual experiences, with everyone in the group participating in the same context. The relationship in communities of practice is shared and continuous, in which each member of the group of people also has the entire group to whom they can turn to if necessary, presenting their difficulties and obstacles in order to obtain qualified and guided help, in a path naturally established by the partnerships that arise within the community. Therefore, experiences, mistakes and successes are exchanged, which saves time and energy for the agents, improving quality and allowing new ideas to emerge, especially through the use of tools, such as establishing learning partnerships.

Students' sense of belonging to the course, to the space, to society, expand and consolidate the concept of citizenship. As well as in the preparation of naturally fermented bread, we cannot exactly control the fermentation time and the result of the bread, but we can guarantee the best conditions for fermentation to occur. In a community of practice we have no management over its formation, but we can promote conditions and situations that foster students' engagement in activities related to professional knowledge and practices, as well as the ethics of care and citizenship.

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