

LEARNING STYLES AND TEACHING STRATEGIES IN GASTRONOMY AND HOSPITALITY: an initial proposal

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ABSTRACT: Education is a dynamic process that can transform individuals. But for this process to be effective, teaching strategies in higher education institutions need to be improved. It is important that such an initiative considers some particularities of the students, in order to make the teaching-learning process more productive. This study aims to identify the learning styles of students of the undergraduate courses in hospitality and gastronomy at the Centro Universitário Senac campus Aguas de São Pedro (SP), and to propose teaching strategies that are suitable for the predominant profiles found. This research is exploratory and descriptive in nature, using a literature review technique and the application of a structured questionnaire. The questionnaire was applied virtually, in March 2020, and received a sample of 51 responses. In the description and analysis of the data, we see that the predominant learning style is the Converging style (43%), followed by the Assimilating (27%), Accommodating (17%) and Diverging (11%) styles. Some active teaching methodologies are suggested that place the student as the central agent of their training process.

KEYWORDS

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INTRODUCTION

People have different personalities, depending on their social behaviors and intellectual skills, which in turn, are dealt with using instruments that define and quantify intelligence (Cerqueira, 2000). The author also states that people's learning processes follow specificities that are directly related to their characteristics and experiences throughout life. Therefore, there is a close correlation between individuals' learning practices and the appropriate use of strategies that can enhance the results of the teaching-learning process (Carvalho & Ching, 2016).

According to Frison (2016) the practice of reviewing and improving teaching strategies and methodologies is quite frequent and is necessary for the dynamics of Higher Education Institutions (HEIs) to function well and ensure that the learning process benefits from the teaching strategies adopted. Taking a similar view, Meurer et al. (2018) highlights the importance of understanding how HEIs should comply with the conditions provided to the faculty and students, so that both parties are actively involved in the teaching-learning relationship and the quality of teaching is ensured.

In order to better align the characteristics of individual learners with the strategies and methods applied in higher education, a study of David Kolb's learning styles can be very useful, as this will allow us to understand the particularities of each spectrum of students (Pimentel, 2020). In this same line of thought, Kolb (1984) proposed analyzing Kolb's seminal work to see the different ways that people learn new content based on their personal characteristics, and how these are intrinsically related to the learning environment (Kolb & Kolb, 2005).

This work aims to investigate the learning styles of students of the undergraduate courses in Hospitality and Gastronomy at the educational institution Centro Universitário Senac campus Águas de São Pedro (SP), through an instrument called the Learning Style Inventory (LSI), proposed by David Kolb (1984). Based on this investigation, it goes on to suggest some teaching methods that will facilitate the process of internalizing knowledge. This study, therefore, aims to answer the following research questions: 'What are the predominant learning styles among students of the two courses studied? and what pedagogical practices can be considered more closely aligned with the dominant profile?'

The ultimate goals that motivated this research were: i) to increase the range of research on this theme, specifically in the area of hospitality and gastronomy in Brazil, due to the small number of studies currently available; and ii) to provide tools that will help teach-

ers formulate teaching strategies that are aligned with the students' profiles.

Regarding the importance of the study, the works of Kosinski, Lisboa & Dhein (2013) and Brandão & Temóteo (2015) are highlighted, as these studies emphasize on the importance of gathering information about learning styles, as a tool for decision making, student performance analysis, course planning and pedagogical practices. The specific context of this study is higher technology courses, with specific lines of training, seeking to give students the best pedagogical experience, that considers their learning styles and the teaching-learning strategies.

METHODOLOGY

The study presented in this article is exploratory and descriptive in nature, using bibliographic research. It is also quantitative as it uses a standardized, structured questionnaire for the data collection. In the first stage of the research, the technique applied was a bibliographic survey, based on scientific articles and books that address the theme and encompass the main points to extract theoretical basis about the Theory of Experiential Learning of David A. Kolb. The databases used for the literature selection were the Scientific Electronic Library Online (SciELO) and Google Scholar, searching on the keywords: "estilos de aprendizagem" and "teste kolb" in Portuguese, and "learning styles", and "kolb test" in English.

The next stage was the application of a quantitative survey, in the form of a structured questionnaire, to gather information on the students. This questionnaire, or test as it is called by its author, is a version of the Learning Style Inventory created by Kolb (1984), adapted by the Federal University of Paraíba (UFPB). The version used in this research consists of twelve sentences, each with four response fields. The respondent is asked to grade their answers from 1 to 4, with 4 indicating how the student is most likely to learn and 1 indicating how the student is least likely to learn.

The test was applied virtually throughout March 2020, with a total sample of 51 undergraduate students of Hospitality and Gastronomy at the institution. The aims of the investigation were described in an online message, which was sent along with an explanatory text and email address indicating where the data, such as name, age, sex, semester, and test result should be sent. This template was sent to the representatives of each room and passed on by them to their respective classmates. The results are presented descriptively, according to the predominant characteristics. Based on the characteristics of the predominant profiles, pedagogical practices were proposed, with teaching methods that could enhance the learning process of the students of both courses.



LITERATURE REVIEW

The development of the professional profile of adults is the result of a series of studies from scholars in the area of psychology, that were widely disseminated among other areas of human and social sciences, especially in the twentieth century (Mourão & Monteiro, 2018). Pimentel (2007) states that Kolb's theory of experiential learning expresses the adult's development within professional logic, guided by the fact that if the individuals' professional experiences are appropriated, the development will be permanent.

This perspective corroborates the view of Cerqueira (2000), who stated that this acquisition of knowledge is marked by different processes throughout life, from the development of basic skills to formal education, which is based on four dimensions of development that are interconnected within this epistemology: affective structure, perceptual structure, and symbolic and behavioral structure, which are responsible for acquiring knowledge from the simplest to the most sophisticated within organizations.

This process includes the concept of acquisition, marked mainly by the experiences of childhood and the development of basic skills, while the concept of specialization denotes formal education and the beginning of interactions in work environments as the main milestone. The concept of integration, meanwhile, relates to the holistic development of consciousness as a correlated result of the first two concepts.

Thus, learning is modeled by mental structures of a subjective nature, which result in the identification of two segments that form the learning framework: processing and perception, i.e., how they are performed, and how the activities performed throughout the learning process are reflected.

In Kolb's (1984) work there are four cyclical stages that guide the experience and its internalization: concrete experience, reflective observation, abstract conceptualization, and active experimentation. In practical terms, these are translated as acting on feelings and senses, reflecting on experience, conceptualizing using the logic and senses, and applying what has been acquired.

Kolb & Kolb (2005) propose that though this dynamic, learning styles can be differentiated into four spectra: Accommodating, Diverging, Converging, and Assimilating.

The Accommodating profile is characterized by individuals whose learning style is guided by active and concrete experimentation, and who are more able to solve problems of an immediate nature, with emotion acting as a beacon for performing tasks. Individuals who use this learning style often work in managerial positions in organizations, or in businesses such as sales, financial analysis, etc.

The Diverging style characterizes individuals who bring various perspectives together. They tend to perform better in tasks that require creativity and finding alternatives. According to Cerqueira (2000), concrete experience and reflective observation represent a greater preference for learning because they can promote integration between the theoretical elements and their application to the consolidation of knowledge.

The Converging style is characterized by individuals who prefer to learn through abstract conceptualization and active observation, i.e., they prefer tasks that involve noting problems and rapid decision-making. People in this group tend to work in liberal professions, such as doctors, engineers, technologists, and physicists.

Finally, the Assimilating style is represented by groups that work better with abstract ideas. Reflective observation and abstract conceptualization give those with this learning style the ability to reason, and to create theoretical and abstract models. Those with this learning style tend to be teachers, writers, and lawyers.

The main goal of Kolb's recurrent investigation into the way individuals learn and perform tasks was to understand how higher education students relate, learn, and solve problems when faced with challenges in the world of work and organizations, in a time of constant change (Krakauer, Santos & Almeida, 2017).

This research theme is still relevant and has been the object of studies in several universities and research centers in different areas. For example, a study by Brandão & Temóteo (2015) sought to identify the learning styles of hospitality students of UFPA; Kosinski, Lisboa & Dhein (2013) observed the same phenomenon, this time in Gastronomy; and Pena, Cavalcante & Mioni (2014) focused on students of the business administration. The results showed similar profiles, even across the different studies, with the presence of individuals who require activities that mix theory and practice, in which the student actively participates. This phenomenon can be explained by the correlation between the areas of hospitality, gastronomy, and management.

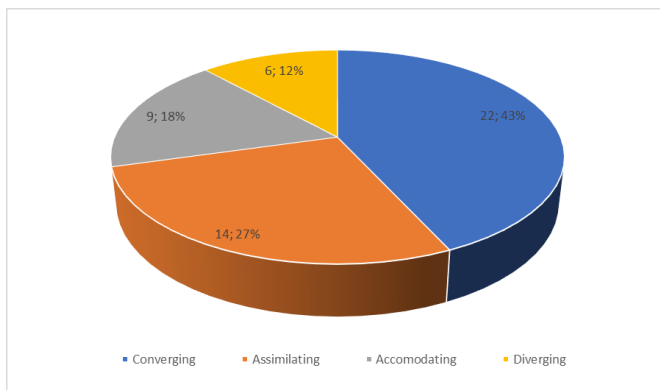
One of the pedagogical practices that emerged was the use of case studies and Problem-Based Learning (PBA) (Brandão & Temóteo, 2015). Although less recent, Cerqueira's (2008) work should also be highlighted because it encompasses learning styles in Brazilian education. The author identifies, in a sample of 2552 students from all states and regions of the country and from all areas of knowledge, that most students are on the Assimilating spectrum, but as the course progresses, the experiences acquired start to make a slight difference in the preferred learning

style, and the Accommodating and Converging styles become more prevalent in the more advanced semesters. The author concludes that the characteristics of the Diverging style, which is based on observation, a milestone in the initial stages of learning, start to change as the students develop more appreciation for abstraction and plurality of ideas, based on the acquisition of knowledge, with which experience and feeling being a crucial part of this process (Cerqueira, 2008). Syahmi *et al.* (2017), in a recent survey of international literature focusing on educational processes for professionals in tourism and hospitality, argue that Kolb's experiential learning, and the learning cycle model that is anchored to it, have been used as a guidance structure that can provide an understanding of the ways in which the educational system and industry can effectively build different learning styles, and how to enhance them.

DATA ANALYSIS

Of the total of 51 responses, a predominance of the Converging and Assimilating styles was observed, with 70% of the respondents in these two categories, followed by the Accommodating (18%) and Diverging (12%) styles, as shown in Graph 1.

Graph 01 - Learning styles of Gastronomy and Hospitality students (total value and percentiles)



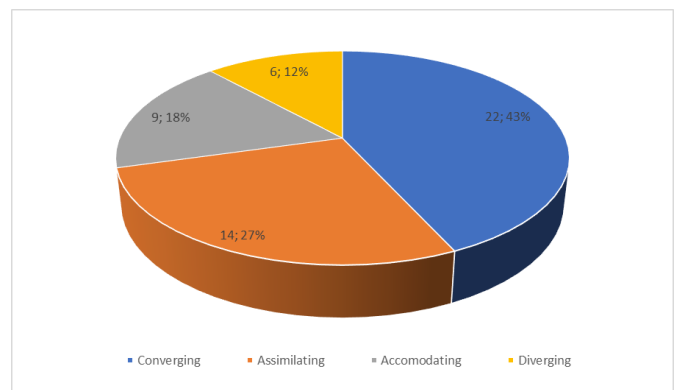
Source: created by the author (2020).

With approximately 70%, a greater ease in learning through the practical application of ideas is observed as a characteristic, and these individuals are commonly engaged in technical-practical and planning functions within organizations. According to Cerqueira (2000), the perceptual structure in reflective observation results in sharper observation skills. These attributes seem to lead to a preference for technology in higher education, as reported by Giordano, Matos & Gonçalves (2018) and Ellwanger (2018), as they are focused on the areas of applicability and execution of tasks that

result in practical and direct training for the labor market. These preferred learning styles are justified by the stages that mark the course of development that individuals go through until they acquire knowledge. According to Kolb (1984) the human being goes through four stages until full specialization is reached. The first stage is the Sensorimotor stage – from birth to 2 years; the second is the Preoperational stage – from 2 to 6 years; the third is the Concrete Operational stage – from 7 to 11 years; and the fourth and last is Formal Operational stage – from 12 to 15 years, this last stage continues through adulthood, and involves the ability to elaborate more complex and abstract knowledge.

Breaking down the data, we see a distinction between the profiles of gastronomy and hospitality students, as shown in Graphs 2 and 3.

Graph 02- Learning styles - Gastronomy (total value and percentiles)

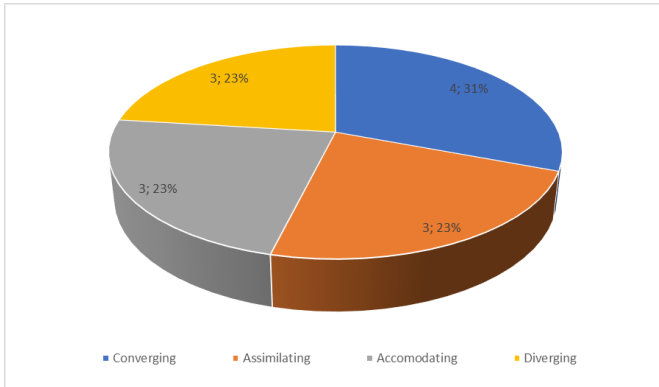


Source: created by the author (2020).

The predominance of the Converging profile (47%) among gastronomy students finds support in the theory of Kolb (1984) and Kolb & Kolb (2005), because there is an alignment between this learning style and the highly practical nature of the course. This process is based on experimentation, through strategies that promote professional development in teaching-learning situations, stimulating the leading role in light of the knowledge and skills acquired. Therefore, as mentioned by Cerqueira (2000), the behavioral structure in active experimentation results in larger and more complex acts. In addition, Kolb (1984) maintains, in his learning model, that active experimentation is an activity in which the individual better internalizes knowledge when applying what he has learned. Other characteristics of individuals with the Converging learning style that are aligned with the profession of chef is the constant need to make decisions and resolve immediate problems, which are characteristic of the professional kitchen environment. This is corroborated by the study of Cerqueira (2000), which reiterates that members of this group apply hypothetical deductive reason-

ning.

Graph 03 - Learning styles - Hospitality (total value and percentiles)



Source: created by the author (2020).

For students of the Hospitality course, we can see in Graph 3 that there is more even balance among the profiles, with the Assimilating style (31%) being slightly more prevalent. This style is associated with abstract conceptualization, the use of theories, and dialogued exhibition, for the purposes of explaining and systematizing information and procedures, establishing a relationship of dialogue between the teacher and the student. This is supported by the definition of Pimentel (2007), which explains that abstract conceptualization is based on actions of comparison with similar realities, in order to establish results through the exchange of shared opinions and ideas, reflective observation is characterized by research attitudes about the reality. In this case, the course profile presents differences from Gastronomy in that despite having practical activities in most modules, it also includes the more theoretical disciplines of management, marketing, consumer behavior, etc., which are more closely aligned with the learning profile of the graduate proposed by the course. Considering the learning styles presented by our data on the students of the two courses, with the predominance of Converging and Assimilating styles, the adoption of some teaching methods is suggested that differ from the exposition paradigm of education and place the student as the central agent of the teaching-learning process. Thus, the student begins to play an active role, as a protagonist in the act of learning and not only as a receiver of information, as observed by Paiva et al (2016), Diesel, Baldez & Martins (2017) and Bondioli, Viana & Salgado (2018). It is suggested that practices be adopted that focus on identifying problems and decision-making, based on techniques, and that provide abstraction or reflection. Thus, as alternatives to promote an alignment of peda-

gogical practices, the authors propose: experimentation, through activities that reproduce activities and professional activities in teaching-learning situations, seeking to replicate the reality of the labor market in laboratories or other controlled environments; dramatization, staging real-life situations with representations of professional doing tasks, which can then be analyzed based on technical knowledge to support decision-making or skills development in specific scenarios; problem-based learning, which involves the use of tools and knowledge in an integrated way to solve problems in professional activity, acting as a bridge between theoretical and practical knowledge; working with projects, integrating disciplines and propositions of models of operational/management/strategic solutions in order to ensure the autonomy of research for practical applications with established goals; and technical visits, with analysis based on previously studied references of production processes, products or business models that contribute to the training process, with the interaction to clarify business details.

FINAL CONSIDERATIONS

The results presented in this article are preliminary and represent only an initial stage of research. The aim of the analysis was achieved, and the initial research questions were answered. This was achieved by mapping students' learning styles and proposing some pedagogical practices that are aligned with these profiles. In terms of the practical implications of the research, it is worth mentioning that in view of the restrictions imposed by the coronavirus (Sars-CoV-2) pandemic, including the suspension of classes and face-to-face work meetings in higher education, there were some communication difficulties during this study, and as a result, it was difficult to achieve the response rate of 90% of the students on campus, to comprise the sample, as was the original goal prior to the period of lockdown in March 2020. This reality prompts reflection on the methodological repercussions used in online surveys. For Carlo Magno (2018), some of the main problems associated with the online application of questionnaires are the lack of control of the research team over the respondents, the higher rate of non-responses, and homophilia (distribution of responses in personal networks resulting in denote high homogeneity). As a result, the data obtained from the sample can compromise the quality of the information in the study. All these factors that may have occurred in our study. It is researchers' understanding that for the continuity of studies, the research should be extended to include face-to-face environments, and not only the virtual environment. As suggestions for further research, we suggest i) map-



ping the teaching strategies used by the faculty and analyzing them in light of information gathered; ii) applying the questionnaires to a higher number of students and iii) investigating teaching practices to see which ones contribute most to the learning process, in the students' own opinions.

We highlight, once again, the importance of studying learning styles in higher education as a means of promoting students' engagement in the pedagogical activities, as well as boosting the students' performance and academic achievement.

Finally, it is hoped that this work will contribute to stimulating further analyses in this field that can bring positive academic results both for the student body, in the form of more assertive strategies that are better suited to the students' learning styles, and for the faculty, as a tool for decision-making and planning classes, considering the many teaching methods.

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