LEARNING STYLES THEORY FOR PLANNING AND DEVELOPMENT OF DISCIPLINES IN MOODLE

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SUMMARY
This work is part of the research line of the Master's Course in Emerging Technologies in Education at *MUST* and started from the reflection on learning styles, with the main objective of identifying which resources and activities are being used by tutors/teachers in the virtual learning environment – *MOODLE*. On the other hand, identify the difficulties they encounter in their work in *MOODLE*, aiming to highlight knowledge about Learning Styles Theories. It was noted that if the teacher/tutor diversifies the presentation of content and teaching materials, as well as understanding the difficulties between teacher/tutor, it is possible to achieve more significant results. **Keywords:** Activities, Resources, Virtual Learning Environment, Learning Styles.

ABSTRACT
The present work is part of the research line of the Master Course in Emerging Technologies in Education of the MUST and started from the reflection on learning styles, having as main objective to identify which resources and activities are being used by tutors / teachers in the virtual environment of learning - MOODLE. In contrast, identify the difficulties that they encounter in their work in MOODLE, aiming to emphasize the knowledge about the Theory of Learning Styles. It was noted that if the teacher / tutor diversifies the presentation of the contents and didactic materials, as well as perceive the difficulties between teacher / tutor it is possible to achieve more significant results.
Keywords: Activities, Resources, Virtual Learning Environment, Learning styles.

1 INTRODUCTION

This article is based on the idea of identifying which resources and activities are being used in the Virtual Learning Environment – *MOODLE (Modular Object Oriented Dynamic Learning Envirnoment),* as well as considering the work of teachers and tutors using Learning Styles as a basis.

MOODLE is a virtual platform used to measure teaching and learning in distance education at FACEG (Faculty of Education of Guaratinguetá) – in the city of Guaratinguetá in the interior of São Paulo.

The research considered the researcher's experience in distance education as a tutor of the Business Administration Course since 2017. The use of Virtual Learning Environment tools by teachers and tutors for the preparation of activities and presentation of content using the active methodology was observed. *FLIPPED*

CLASSROOM and BLENDED LEARNING in the subjects offered by the Business Administration course. This work presents as a central problem the pedagogical practice of the teacher/tutor and the tools used in the *MOODLE* starting from the principle of learning styles in the teaching process in the Business Administration Course, that is, understanding whether their practices are effective in the teaching-learning process.

2 METHOD

In this study, the use of resources and activities of the MOODLE Platform based on Learning Styles was investigated, being used in the teaching-learning process of students of the Business Administration Course at Faceg in Guaratinguetá.

A theoretical and bibliographical study was carried out on learning styles, the objective of which is to provide teachers/tutors with the relevance of knowing these theories as well as the use and resources available on the platform. *MOODLE*, with the main objective of showing the benefits of learning for students involved in distance learning in the Business Administration Course at FACEG in Guaratinguetá.

3 DEVELOPMENT

3.1 THE IMPORTANCE OF LEARNING THEORIES FOR PLANNING A VIRTUAL LEARNING ENVIRONMENT

The teaching profession is not formed only by practice, but is also nourished by educational theories. Regarding this statement, it is clear that theory is of fundamental importance, because when we appropriate theoretical foundations we benefit from different points of view for decision-making within a contextualized action, acquiring judgment perspectives to understand the different contexts of everyday life. (SOARES *et. al*, 2011).

Education, as well as the economy, health, security, TV, radio, our form of communication as well as all other areas of human knowledge are undergoing transformation. We are experiencing this transformation at this very moment. Cyberculture (contemporary culture mediated by digital interfaces) has changed everything. (LEMOS; 2011). The way we communicate, how we consume, how we move around, how we watch movies, how we are treated in a hospital, how we use the legal system, among others. In this context, change has inevitably reached schools and universities. (ROBINSON, 2012). We have changed

our ways of accessing information, studying and learning. Given this scenario, what is the possibility of teachers not updating themselves not only in theories, but also in ways of learning and teaching? (ROBINSON, 2012).

For (ZUIN, 2010) “Educating for innovation and change means planning and implementing dynamic learning proposals {..} and, thus, ensuring the training of people to exercise citizenship and work with freedom and creativity”. Jean Piaget’s constructivism (1978) presents the need to build knowledge through social relationships, where operations give way to cooperation. This stance is essential to nurture teamwork, so important in the area of Business Administration. The virtual tools used made it possible to extend learning, transforming practice. (SOARES*et. al*, 2011).

The authors (SILVA*et. al*., 2010) worked from the perspective of humanist and interactionist theories, which refer to Vygotsky's socio-interactionist theory, according to which man modifies the environment and the environment modifies man. All learning is necessarily mediated, and this makes the role of teaching and the teacher more active than that predicted by Piaget.

In Vygotsky's theory, no knowledge is constructed by the person alone, but by the person's interactions with the group, where the teacher acts as a mediator, and learning is in the observation of the environment and in the discussion and organization of discoveries together - students and teachers (BECKER, 2012).

The theory concerns stimulus-response, in which the stimulus precedes and generates a consequent response. The teacher uses materials and, later, the student is evaluated on what he/she has read, as a conditioning. This second stage is only achieved when the previous one is successfully carried out (DA CUNHA; PEREIRA, 2016).

The environment is particularly centered on the student and not on the teacher, creating a symbiotic relationship in which the teacher is an actor responsible for the construction of this knowledge, considering the student's own knowledge and skills. (BACICH*et. al*, 2018). MOODLE also favors the notion of learning in collaborative environments through tools that support this exchange, such as wikis, e-books, forums and chats. It also has a series of assessment tools, by access, summative and participatory (SABBATINI, 2007).

3.2 LEARNING STYLES

In this exponential world, technologies advance, economies fluctuate frequently and populations grow, values and behaviors also change and change rapidly. Everywhere, educational systems need to deal with waves of cultural changes on all fronts. Much of this change is due to digital culture. (ROBINSON, 2012)

According to (CAMPOS, 1987) the learning process is unique, and occurs individually, but the relationship with this process is fundamental for success at the end of this process. It is worth mentioning that the objective of teaching-learning is directed at how the contents are exposed/organized, therefore learning styles are an important tool that enables strategies that facilitate the learning of certain students. (SANTOS*et. al* , 2010).

Learning styles show us how individuals learn and by using resources it is possible to maximize the teaching process. The scholars who researched learning styles are: Gallego, Honey, Alonso, Felder, Kolb, Alonso and Barros. Below we will see the perspective of Alonso and Gallego used in their studies. (apud AMARAL, BARROS, 2007).

In this exponential world, it is known that theories are constantly changing and thus studies on the subject emerge and new discoveries are made, therefore it is important to emphasize that Learning Styles are not static. (ISMAIL,*et. al*, 2018)

Highlighting the studies of Alonso and Gallego (apud AMARAL, BARROS, 2007) point out learning styles as cognitive, affective and physiological traits. These three components allow the perception of interaction as well as the appropriation of knowledge embodied in the virtual environment. Establishing the relationship between learning and new technologies, it is necessary to reflect on the diversity and individuality of each student, based on this assumption, learning theories provide ways of learning aligned with the teaching process pointing to each individual (ALLONSO; GALLEGO, 2002 apud AMARAL; BARROS, 2007). Highlights four defined learning styles, namely: active, reflective, theoretical and pragmatic. The active style values new tasks, the reflective style updates data, reflects and analyzes, the theoretical style is logical, establishes principles, theories and the pragmatic style applies ideas, experiments. (AMARAL; BARROS, 2007)

Estilo Ativo	Estilo Reflexivo	Estilo Teórico	Estilo Pragmático
Mente aberta; Novas experiências; Gostam de relacionamentos em grupos; Espontâneo, criativo, competitivo..	Observam diferentes perspectivas; Analisam as situações; Ponderado, consciente, pesquisador, assimilador, lento..	Lógicos e complexos; Racionais e objetivos; Metódico, lógico, explorador, crítico ..	Experimentador; Impacientes com as pessoas que teorizam; Prático, diretos, realista... Planeja ações.

Estilo de Aprendizagem por Alonso e Gallego

Fonte: Amaral e Barros (2007)

It is worth highlighting that Learning Styles and the use of activities and resources available in MOODLE, learning becomes more significant, considering that it enhances the preparation of classes, obtaining more solid results in the learning of each student as reiterated (AMARAL; BARROS, 2007).

3.3 ACTIVE METHOLOGIES AND BLENDED LEARNING AND FLIPPED CLASSROOM PROPOSALS.

Mel Silberman, a renowned American professor, points out that “an active learning methodology is based on the idea that watching and listening to content in an apathetic manner is not enough to absorb it.” Content and skills must be discussed, experimented with, and performed until the student reaches the point where they can master the subject and talk about it with their peers, and perhaps even teach it. In this sense, active learning methodologies are a way to attract and engage students (BRITO, 2003).

Active learning encompasses a wide range of educational activities, teaching strategies, teaching methods and any pedagogical approach that aims to activate or develop students' critical thinking in the learning process, learning *maker*,*Peer Instruction*, PBL***(Problem Based Learning),***among others, and technologies contribute to this dynamic and interactive learning for students. BACICH (2018)

Active learning in the environment*online*, for example, is based on subjecting the student to pedagogical questions and involvement in debates, dialogue, visualization, knowledge, writing, problem solving, case studies, learning in structured groups or pairs, virtual environments known as AVAS and, also, there are options for*game show*as the platform*kahoot*where students answer questions in real time on a dynamic and fun platform using their cell phones. (BACICH*et. al*, 2018)

The traditional form of teaching has shown us to be more emblematic, in the face of students born listening passively to their teacher. These contemporary young people coming from the digital culture absorb fewer concepts when sitting and listening passively. (SOARES *et. al*, 2011). When we deal with innovative education for this exponential world, it is worth highlighting the hybrid methodology with similarities to EAD (remote access and flexibility, *online*) with the advantages of having face-to-face meetings, interaction between students and face-to-face access to the tutor for problem-solving and guidance on projects. (SOARES*et. al*, 2011)

Professor BACICH (2018) points out that Distance Learning has, each year, attracted and won over new followers and led to the creation of new courses, some previously unimaginable in this modality.

THE*blended learning*adds value to the educational system by being compatible with the profile of the new student, providing interactive, complete and personalized learning, with the student having autonomy and flexible schedules. We highlight some advantages of this teaching method, which are: Time saving; Easy access to material; Possibility of interaction between students (chat); Allows for serving a larger and more diverse audience; Social inclusion tool; Low cost of tuition; Flexible schedule and location; Requires greater dedication from the student; Shares knowledge with a larger number of people around the world; Democratization of knowledge. (MARQUES)*et. al*, 2004)

Educate through platforms*online*is considered a challenge, because as a teacher you will not immediately know your students' reaction to the content presented for appreciation. (MOORE; KEARSLEY, 1996). However, the teacher brings with him/her experiences from the classroom that will facilitate the mediation process in distance learning.

The benefits of blended learning***learning***)

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THE*blended learning*adds value to the educational system by being compatible with the new student's profile, providing interactive, complete and personalized learning, with the student having autonomy and flexible hours. We highlight some advantages of this teaching modality, listing four advantages:

Use of the Flipped Classroom

In hybrid teaching, students access live classes from wherever they are using technologies such as*tablets, smartphones*, among others, and absorb the content, in addition to solving exercises individually. The concept portrays what was done in the classroom and, in this case, the flipped classroom is carried out at home and the classroom can become more didactic with debates, for example, once the content has been absorbed*online*. In addition, students can ask questions with the help of a tutor.

Better use of time and content

Students have prior contact with the topics covered before class, resources are made available by the institution and with this students can digest the topics and optimize their time.

Active student participation

With this format, it is possible to create a schedule of activities, defining priorities so that students are actually active in learning. This allows students to create a vision of the whole and assume responsibilities.

Flipping increases student-student interaction.

All the benefits listed here are relevant to this student protagonism, however one of the great benefits of the inversion is the strengthening of interactions, the role of the teacher in this exponential world has changed from expositor to learning guide.

Therefore, with this change in role, the teacher begins to act as a clarifier of doubts rather than a presenter of content.

3.4 ORGANIZATION OF THE MULTIDISCIPLINARY TEAM

A well-planned, aligned and integrated team can bring countless benefits to the organization, even more so when it comes to distance learning. Every team is made up of people who bring with them life stories, personalities and skills that relate to and complement each other. BEHAR AND COLS, (2009). Since it is a team, we will have someone who is good at preparing and analyzing reports efficiently, someone who verbalizes well, another with the ability to identify and solve simple or complex problems. Therefore, these characteristics work together and united, activities are developed in less time and with more quality and assertiveness, thus increasing the team's productivity. MORAN, (2012). Teamwork is the key to organizational success, regardless of the segment of activity and since it is the educational context, it is even more evident that

Teamwork is essential to achieve goals, with multidisciplinary work being an innovative path towards more satisfactory results. BEHAR; COLS (2009). The highlight of a multidisciplinary team lies directly in the union of professionals with different specializations working to achieve common goals, in such a way that their different skills and approaches contribute to the completion of the project. BEHAR AND COLS, (2009).

In the educational context it is no different, every project to be started requires good planning and a support team, so that the pedagogical and technological parts work, in this distance education project teamwork becomes a key piece to deliver a quality course. MORAN, (2012).

Therefore, it is known that this way of working points to a more dynamic and collaborative production, with rich and complex results in their details, the quality of the final product lies precisely in its scope.

CONCLUSION

Therefore, it is concluded that technology-mediated classes in the case of MOODLE present several resources/possibilities and tools that the teacher can develop and explain with guidance in order to think about a pedagogical plan that advocates the opportunity to build knowledge based on learning styles aligned with the proposal of each discipline. On the first day of class, students of the Guaratinguetá Course receive a questionnaire by Honney and Gallego that, after being answered, shows the learning profile of this student, thus the teacher/tutor can outline and set up strategies aimed at each student with a targeted focus. Link: http://www.lantec.fe.unicamp.br/questionario/

Considering that the activities proposed by the teacher/tutor can attract students to collaborative or autonomous work, considering pedagogical mediation. It is worth mentioning that with active methodologies these students become protagonists of their teaching-learning processes, through the flipped classroom, where the content and teaching materials are sent in advance to students through MOODLE.

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