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## **UNIVERSITY ENGAGEMENT: AN EXPERIENCE OF INTERDISCIPLINARY PROTAGONISM IN THE MANAGEMENT COURSE**

### **ENGAJAMENTO UNIVERSITÁRIO: UMA EXPERIÊNCIA DE PROTAGONISMO INTERDISCIPLINAR NO CURSO DE ADMINISTRAÇÃO**

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## **ABSTRACT**

The objective of our research is to analyze an interdisciplinary experience in the Management course at UFMA from the students' view based on Veiga's (2013, 2016) student engagement dimensions. We considered the qualitative approach to data, with exploratory and descriptive purposes through a case study. The data were collected through the application of an online questionnaire to students enrolled in the disciplines in question and a bibliographic survey on the DCN of the Administration course, interdisciplinarity, and student engagement. The questionnaire was applied via online tool, since the courses were offered remotely in the first semester of 2022, with all students enrolled, and 51 responses were returned, which represents a sample of 74% of the enrolled students. We carried out a quantitative analysis, verifying average and frequency among the answers, and for the open questions, a textual analysis of the speeches presented was done, based on the students' speech and its categorization by the variables identified in engagement and interdisciplinarity. The results revealed a profile of students who were more cognitive and behavioral, with some emotional involvement, but less agency. Teamwork stood out as a point of attention due to the controversial answers given. In the students' perception, the interdisciplinary experience was successful.

**Keywords:** Management. University Engagement. Interdisciplinarity. DCN.

## **RESUMO**

O objetivo geral de nossa pesquisa é analisar uma experiência interdisciplinar no curso de Administração da UFMA a partir da visão dos estudantes com base nas dimensões de engajamento estudantil de Veiga (2013, 2016). Consideramos a abordagem qualitativa dos dados, com fins exploratórios e descritivos por meio de estudo de caso. A coleta de dados se deu com a aplicação de um questionário online junto aos estudantes matriculados nas disciplinas em pauta e o levantamento bibliográfico sobre as DCN do curso de Administração, interdisciplinaridade e engajamento estudantil. O questionário foi aplicado via ferramenta online, uma vez que as disciplinas foram ofertadas de maneira remota no primeiro semestre de 2022, com todos os estudantes inscritos, sendo retornados 51 respondidos, o que representa uma amostra de 74% dos matriculados. Realizamos a análise quantitativa, verificando média e frequência entre as respostas e para as questões abertas foi feita análise textual dos discursos apresentados, a partir da fala dos estudantes e sua categorização pelas variáveis identificadas em engajamento e interdisciplinaridade. Os resultados revelaram um perfil dos estudantes mais cognitivo e comportamental com certo envolvimento emocional, entretanto menos agenciativo. O trabalho em equipe se destacou como ponto de atenção pelas respostas controversas apontadas. Na percepção dos estudantes, a experiência interdisciplinar realizada foi exitosa.

**Palavras-chave:** Administração. Engajamento Universitário. Interdisciplinaridade. DCN.

## **1 INTRODUCTION**

Engagement has been shown to be the most influential cross-sectional variable with regard to learning outcomes, adherence, and responsibilities to studies. However, if before the global Covid-19 crisis the challenges of student engagement were already enormous, now that the pandemic is still ongoing they have been magnified. Universities are increasingly called upon to develop integrated actions aimed at engaging students and finding ways that lead to a beneficial experience and the strengthening of perspectives.

In turn, the universities in Brazil, when contemplating in their offer the undergraduate course, must, regarding the organization of the course through its pedagogical project, consider, among other aspects, the National Curriculum Guidelines (ARANTES; MONTEIRO, 2016). This document, with comprehensive guidelines, should be observed by the HEIs in the organization, development and evaluation of the course within the Higher Education Systems of the country (CFA, 2020). In 2021 the new National Curricular Guidelines (DCN) for the Administration course were approved (BRASIL, 2021). One of the recommendations contained in the new DCN is the implementation, from the beginning of the course, of activities that promote integration and interdisciplinarity in coherence with the axis of curriculum development, seeking to integrate the technical, scientific, economic, social, environmental and ethical dimensions (CFA, 2020).

In view of this recommendation, the teacher-authors of this article decided to develop an interdisciplinary experience with the curricular components of Business Games and Strategic Planning of the Administration course of the Federal University of Maranhão (UFMA). We are interested in finding out how this interdisciplinary experience contributes to the engagement of students in the course of Administration at UFMA?

Engagement with learning-relevant activities relates to the student's commitment to learning. Veiga (2013, 2016) constructed the EAE-E4D scale to measure student engagement in four dimensions: cognitive, emotional, behavioral, and agency. According to the author there is a relationship of the student in specific dimensions that affect their performance. We chose this scale as the target of our research on college engagement.

Therefore the overall objective of our research is to analyze an interdisciplinary experience in the UFMA Administration course from the students' view based on Veiga's (2013, 2016) dimensions of student engagement.

In the next sections we will conceptualize and characterize the term engagement and its dimensions; establish associations between the NCDs and interdisciplinary practice; describe the students' perception of the interdisciplinary experience performed; and, measure the engagement of Administration students under the dimensions that interfere in the learning process, reported by Veiga (2013, 2016).

## **2 STUDENT ENGAGEMENT AND ITS DIMENSIONS**

The study by Irala and Oliveira (2020), in which they examine the multiple approaches to student engagement from articles indexed in the SciELO platform, points out that there is no conceptual treatment of the term engagement in a large part of the articles found. Even so, comparatively speaking, twenty years ago the word was rarely mentioned in the set of texts published, and has shown exponential growth in recent years.

In order to counter the study evidence pointed out above, we present a broad notion of engagement that underpins this research. According to Japiassú and Marcondes' Dictionary of Philosophy (2001, p. 81), the verb engagement is defined as follows:

In the existentialist and personalist philosophies, engagement is the awareness, by the human being, that he is a being-in-the-world, he is always situated, and he must fight against all quietism, against all contemplative attitude to commit himself, by his action, to the change of this world, of our historical reality.

From the philosophical definition of the concept of engagement, there is an indication that transcends immediate or future individual pretensions, for example, aimed solely at academic success. An engaged subject is expected to have initiative, attitude, and protagonism with regard to social phenomena and the relationships implied by such phenomena, in an orientation aimed at transforming the world and the present reality (IRALA; OLIVEIRA, 2020).

Irala and Oliveira's (2020) argument for defining student engagement rests on the specificity of the relational nature of engagement as it corresponds to aspects of both individual and collective order. In the same view for Aspeé, González, and Cavieres-Fernández (2018), the notion of student engagement manifests itself in individual and collective, academic and extra-academic elements, in an articulated manner; thus, one has the academic dimension added to the personal-integral dimension and the citizen dimension, which reveals itself as an important contribution to the students' formative process, which can

be seen in a global and integrative perspective. In her book, Shirley (2022) evidences that research on student engagement has been dominated by the discipline of psychology, especially Positive Psychology, emphasizing the multidimensional importance of cognitive, behavioral, emotional, and agentic engagement (FRIEDRICKS; BLUMENFELD; PARIS, 2004; REEVE; TSENG, 2011; VEIGA, 2013, 2016).

Student engagement in school can be defined as the experience of centripetal attachment. It is a multidimensional construct and can range by having one to four dimensions (VEIGA, 2016). According to Veiga (2013), the EAE-E4D scale consists of 20 items that assess engagement in four dimensions: behavioral, cognitive, emotional, and agency.

For Veiga (2013) the former refers to the student's positive attitude, effort, persistence, and attention in participating in learning activities. Cognitive engagement is the willingness to think about and understand a topic or concept, to solve problems, and to think critically. Therefore, it involves student self-regulation. No less important is emotional engagement, which is related to students' reactions or emotions during learning activities, such as happiness, apathy, anxiety, interest, or boredom.

In turn, the agentic dimension is related to the students' actions, in the sense of analyzing their reactions in the scenario of protagonism. For Veiga (2013), the agentic or agentive engagement, as it is also defined, connects to a perception of the student as the agent of the action, and how the initiatives of this student, interventions in classes, dialogues with the teacher, questions raised and suggestions made to teachers can improve the learning process. This approach points to the personalization of student learning, where students are more active and critical in the educational setting.

Martins and Ribeiro (2017) state that university engagement includes two main focuses: one focused on student experiences and behaviors throughout their time in higher education; and another that is related to the interactions, practices, and support systems developed and offered by the University in order to improve the engagement levels of its students.

In addition to university engagement, it is worth taking into consideration faculty engagement. The teaching-learning practice is related to motivation, understanding that, besides cognitive and emotional engagement, there is also a strong presence of social engagement, both in the sphere of students and their peers (NASCIMENTO; BRITO; PADILHA, 2020).

Next, we address learning from interdisciplinarity. For interdisciplinary learning to occur, teachers and students need to be engaged in order to promote the integration of theory and practice from different areas of knowledge and to work in a common region in which this knowledge can be valid and obtained through learning from each other (MORIN, 2011; BRANDÃO, 2008; BRADBEER, 1999).

### **3 DCN AND INTERDISCIPLINARITY IN ADMINISTRATION**

In 2021 the new National Curricular Guidelines (DCN) for the undergraduate course in Administration were approved, through Resolution CNE/CSE no. 5 of October 2021, with the aim of aligning directions for all undergraduate courses in Administration in the country, since "they must be observed by Higher Education Institutions (IES) in the organization, development and evaluation of this course within the Higher Education Systems of the Country" (BRASIL, 2021, art. 1.). The DCN present guidelines about the graduate profile and the competencies that must be developed, the organization of the course and its pedagogical project, the management of learning and its records, the evaluation of activities, the teaching methodology, the interaction with the market and the faculty. It is possible to see throughout the document the need to think about integrating and interdisciplinary practices in order to better prepare for the real work situations of this professional.

For Brisolla (2020, p. 85), "higher education institutions have discussed the issue of interdisciplinarity and active methodologies in order to expand the teaching-learning process towards an emancipatory training". In this sense, bringing this discussion imposes the promotion of participation and dialogue between faculty, students and the institution of higher education, in addition to aligning the needs of professional training required today.

With this, interdisciplinarity appears strongly recommended in art. 4, in its 6th and 8th paragraphs, when it states that the activities must promote interdisciplinarity, including academic projects:

§ 6º It is recommended to implement, from the beginning of the course, **activities that promote integration and interdisciplinarity** in coherence with the axis of curricular development, seeking to integrate the technical, scientific, economic, social, environmental and ethical dimensions. [...]

§ It is recommended to stimulate academic activities such as scientific initiation, academic competitions, **inter and transdisciplinary projects**, extension projects, volunteer activities, technical visits, teamwork, development of prototypes, monitoring, participation in junior enterprises, incubators and other activities that develop the entrepreneurial culture. (BRASIL, 2021) (our emphasis)



Interdisciplinarity integrates the disciplines in such a way that enables the emergence of new paths, new points of view on a problem/situation that exceed the possibilities of disciplines alone (BERGAMINI; FARINA; GARCIA, 2020). Thus being possible in higher education, provided that "there are institutional managers committed to making changes, that the Political Pedagogical Project includes this orientation and that, from the operational point of view, has someone who articulates the collective in this direction" (SOUZA et al, 2012)

In this way, the interdisciplinary approach in higher education courses allows for the development of new competencies, especially in courses with a strong relationship with the market, as is the case of Business Administration, considering that it works with complex problems and for their solution there is the need to synthesize and apply new knowledge and skills, originating from the interaction of disciplines, or from interdisciplinarity in the course activities, since isolated knowledge no longer meets the solution.

To deepen the understanding of the competencies required of the Administration graduate, we must return to the DCN that list the following: Integrate fundamental knowledge to the Administrator; Approach problems and opportunities in a systemic way; Analyze and solve problems; Apply analytical and quantitative techniques in the analysis of problems and opportunities; Have technological readiness and computational thinking; Manage resources; Have interpersonal relationships; Communicate effectively; Learn autonomously. (BRASIL, 2021, art. 3.)

The proposal of the new curricular competences for graduates in Administration seeks to balance the human, analytical and quantitative side, allowing them to be able to make decisions and solve increasingly complex problems, which will be possible from interdisciplinarity and integrated projects. On this side, Favarão and Araújo (2004, p. 106) assert that "it is necessary to clarify that interdisciplinarity is not a didactic technique, nor an investigation method, neither can it be seen as an element of reduction to a common denominator, but as a theoretical-methodological element of diversity and creativity." Leading thus to the need for methodological design for interdisciplinary practice, in order to enable the student to use creativity and skills to deal with the diversity.

Regardless of its use, it is worth noting that "the changes in the field of education move towards innovative and interdisciplinary pedagogical practices in higher education, in order to promote breaks with teaching methodologies as a process of mere transmission of knowledge" (BRISOLLA, 2020, p.86). To face these changes, the adoption of projects and

interdisciplinary activities encounter barriers, whether of methodological (epistemological, psychosocial, interactional), institutional (culture, training of people, departmentalization) or material (economic, financial, technological and structural resources), denoting that interdisciplinarity needs institutional support to be effective (FAVARÃO; ARAUJO, 2004).

To this end, interdisciplinary projects and activities need to be clearly defined and presented to students, since their value and importance are obvious to teachers, and the same awareness should be worked in the students involved, in order to know what an interdisciplinary activity consists of and its objectives. Thus, it is possible to develop empathy in the group and achieve collaboration to achieve the results (HUTCHISON, 2016).

The presence of interdisciplinarity in HEIs depends, at least for now, on the initiative of teachers who are sensitive and committed to methodological change, and who are willing to face the challenges that this practice imposes, the larger this group of teachers and the more diverse the experiences, the more the course will be "contributing to the development of skills and abilities of the future professional that the labor market demands and that the University proposes to graduate" (SOUZA et al, 2012). In this sense, returning to the DCN (BRASIL, 2021), the Administration course must use methodologies that favor learning, with the student assuming an active posture (protagonism), motivation and awareness of their ability to learn, and that enables practice, receiving feedback on their performance in order to develop the skills needed to act as a future professional. Thus, seeking student engagement within interdisciplinary experiences should be a path for innovative teaching practice, based on the development of competencies in the graduates.

#### **4 INTERDISCIPLINARY EXPERIENCE CONDUCTED**

The curricular components Business Games (60 hours, 8th period) and Strategic Planning (90 hours, 6th period) were part of the interdisciplinary experience we describe. The classes were taught by means of remote teaching via an online classroom on Google Meet. In order to carry out the practice, the students got together in teams of 4 to 6 members and were responsible for searching for an organization in order to provide consulting services. The formation of the teams allowed the participation of students enrolled only in Strategic Planning, only in Business Games, and there was also encouragement for students to enroll in both components. The teachers were aware that, since they are subjects of different periods, the percentage of students enrolled simultaneously in the two components would be lower



than in other cases. A total of 13 organizations/teams were chosen, 11 of which were private companies, 1 public company, and 1 organization from the third sector.

While each teacher developed the contents of their respective component, the students experienced in practice the opportunity to apply them, the development of consulting skills, the application of strategic planning tools, and the creation of a consulting project for the problems identified with the client. The use of digital technologies was encouraged and adopted as a means to aid teaching and learning, such as the application for building conceptual maps like Miro and digital whiteboards like Jamboard, as well as the creation of groups on WhatsApp to facilitate communication.

Specifically, the Business Games component usually brings together the knowledge learned by the student throughout the course in practical application through simulations. In the case of this experience, the proposal aimed to go beyond simulation by offering the experience of real situations in everyday management and through the practice of organizational consulting. The students, positioned as consultants, were able to experience the consulting phases of hiring, diagnosis, and feedback. In turn, the Strategic Planning component provided theoretical knowledge of planning and strategy, as well as methodologies and general tools as instruments for the application and development of strategic planning in the consulting intervention.

Thus the experience was set up for students to practice organizational consulting through problem and project-based learning (PBL) with a focus on strategic planning. We chose PBL as an active learning methodology because it focuses on the application and integration of knowledge through the development of a project. PBL explores "knowledge in action" (FERNANDES, 2018).

The objectives of the interdisciplinary experience were clearly presented to the students by both professors who taught the components separately, in order to: favor interdisciplinary learning, strengthen the student's education as a professional, encourage systemic thinking, stimulate problem analysis for the presentation of creative solutions, and develop teamwork and communication skills.

We adopted a formative learning evaluation composed of participation during classes, delivery of individual and team activities in written and oral format. The first and second grades were exclusive to each component, and the third grade was the interdisciplinary grade,

which consisted of the student-consultants' presentation of the consulting project proposal to be presented to the client.

In this way, the planning of the interdisciplinary experience considered acts of engagement stimulus, which awakened in the students a passion to participate, follow up, and carry out the teaching-learning activities. At the same time, we sought to provide situations in which the students could develop and improve interpersonal relationships, communication, and interaction in a collaborative environment of mutual trust.

## **5 METHODOLOGICAL ISSUES**

The methodological path was initiated with a qualitative approach to data, in order to describe this interdisciplinary experience from the students' point of view, detailing the variables of the scale of Veiga (2013, 2016) to measure the engagement during the project. As for the ends, in the classification of Vergara (2000), it is exploratory when raising the "what", in the sense of understanding what the contribution of this interdisciplinary experience in the engagement of students, while it is descriptive when characterizing and analyzing how the interdisciplinary experience occurred in the Administration course. As for the means, in other words, the procedures used, a case study was done about an interdisciplinary experience in the Administration course at UFMA, carried out by the joint work between the teachers of two specific curricular components. Data was collected through the application of a questionnaire to students enrolled in the disciplines in question and a bibliographic survey on the DCN of the Administration course, interdisciplinarity and student engagement.

The questionnaire was applied via online tool, since the subjects were offered remotely in the first semester of 2022, with all students enrolled, and 51 responses were returned, which represents a sample of 74% of enrolled students. The data collection instrument was a questionnaire with 60 questions, divided into 5 sections, using a 5-point Likert scale ranging from strongly agree to strongly disagree. The first section was based on the scale of Student Engagement in School: A Four-Dimensional Scale (EAE-E4D), developed by Veiga (2013) for students between 6th and 12th grade and by Veiga (2016) for higher education students, using its dimensions for analysis, namely: cognitive, emotional, behavioral, and agency.

The second section, about the interdisciplinary experience itself and its objectives; followed by the part about teamwork and the infrastructure and methodology for the

development of the subjects. The fourth section is an analysis of the teachers and, finally, the last section is a descriptive evaluation of positive and negative points, as well as suggestions for improvement.

In possession of the research data, they were categorized within each section, with the study variables on engagement and interdisciplinarity, associating with the DCN of the Administration course, so that the students' perception of the interdisciplinary experience was measured. With the tabulated data, we performed a quantitative analysis, verifying average and frequency among the answers. In this way, the analysis of the results was carried out in order to verify the contribution of the case study to the education of the students and thus improve teaching practice. For the open questions, a textual analysis of the speeches presented was made, based on the students' speeches and their categorization by the variables identified in engagement and interdisciplinarity within the Administration course at UFMA. We emphasize that to ensure the anonymity of the students we coded their statements using the acronym EST followed by a cardinal numeral to express the confidential authorship of their statements.

## **6 PRESENTATION OF RESULTS**

We present the results from the crossing between the quantitative answers and the qualitative analysis of the discursive part in order to confirm the information and allow inferences about the interdisciplinary practice in the Administration course at UFMA.

### **6.1 ABOUT ENGAGEMENT**

The dimensions of student engagement as defined by Veiga (2013, 2016) were analyzed in the first 20 questions of the form applied to students, and are now grouped by dimension to facilitate understanding of the data.

Veiga (2013, 2016) points out that the cognitive dimension is based on information processing, searching for relationships, information management and preparation of execution plans. For the evaluation of this dimension, the following aspects were taken into consideration: **self-regulation, active learning, curiosity/investigative capacity, interdisciplinarity, elaboration of study plan/methodology.**

We analyzed the indicators of cognitive engagement (Table 01), for the most part (75%) students reveal that they engaged in deep cognitive processing while performing the

interdisciplinary experiment. However, when it came to the aspect of self-regulation of learning - reviewing notes independent of "proof" - we observed that 59% of students expressed agreement and 41% of these students disagreed or remained neutral for this indicator. Regarding curiosity/investigative capacity only 41% of the students said they would go in search of information other than the materials presented in class. This shows that most students still remain in a more static position, i.e., without dynamism, content to receive only the content made available by the teachers.

It is noteworthy the high rate of agreement for the aspect of active learning through the exercise of reading with meaning in which 98% of students claim to have done. In turn, another characteristic indicator of cognitive engagement is interdisciplinarity, to the extent that students showed agreement (90%) that they sought to relate what they learned among the curricular components of the experience. It also reveals that the interdisciplinary proposal was evaluated as a positive point among the students. Here are the examples cited:

Being able to apply in an interdisciplinary way the knowledge obtained in a case study and have the possibility to observe how the tools presented in class generate real results (EST4). I participated only in Business Games! I really liked the interaction with the market [...] Very good to be able to apply knowledge of Strategic Planning that I had already done, for this discipline! It was very easy (EST20). The subject is good, the union of the two subjects is a bold and beneficial proposal to the student, since you learn not only to plan, but to act as a consultant (EST21).

Interesting to note that students in a performance as information manager stated (86%) that they previously executed some planning for their studies. To the extent that they organized the preparation of concept maps and the completion of the digital whiteboards, students tended to have a better understanding and retention of the learning content.

**Chart 01** Cognitive Dimension

Perguntas	1	2	3
I regularly review my notes, even if an evaluation is not yet forthcoming.	10%	31%	59%
When I am reading, I try to understand the meaning of what the author wants to convey	2%	0%	98%
I spend much of my free time looking for more information on topics discussed in class.	25%	33%	41%
I try to relate what I learn in this subject to what I learn in the others.	6%	4%	90%
When I make my conceptual/mental maps or when I write my papers beforehand I a plan to execute them make	2%	12%	86%
Overall dimension value	<b>9%</b>	<b>16%</b>	<b>75%</b>

Legend 1 disagree (grades 4 and 5), 2 neutral (grade 3), 3 agree (grades 1 and 2)/Source: authors themselves.

When we asked the students what contributed most to their engagement and learning, some answers clearly reveal the emphasis on the cognitive dimension. The student in his statement said that the course as a whole was very productive, but if I had to choose any of the methodologies, the concept maps were of great importance to my learning (EST28). Still on the use of the maps, another student believes that it would be very interesting to continue using conceptual maps, "for me it was the best tool to make me absorb, in fact, the content" (EST27). In another statement the student reveals that the organization of the course schedule and the commitment to knowledge sharing (EST25) was a contribution to keep him engaged. In turn, another student said that the final activity is a construction, a progression, and "that's why I found that this way you don't get overwhelmed with putting together a complete project" (EST15). These are examples of student protagonism from the planning and management of information.

When talking about the behavioral dimension, Veiga (2013, 2016) used specific indicators of conduct referring to the student's positive attitude, effort, persistence, and attention in participating in learning activities. For the evaluation of this dimension we took into consideration measuring student behavior from the following aspects: collaboration, preferences for individual tasks, relationship and teamwork, academic attendance due to difficulties in accessing technology, attendance, and commitment.

It is worth noting that the analysis of this dimension is inverted, because the values sought are related to the disagreement of the statements, except the first one (Table 2). In the question that analyzes collaboration, the majority (94%) of the students affirm that they contributed to the team by offering ideas, data, and information for the development of the advisory project. EST 37 even lists as positive points of the experience "the collaboration and constant construction in the classroom". And as a positive for EST 36 "the use of collaborative tools for sharing knowledge and developing ideas/solutions".

Almost half of the students (47%) did not prefer to work alone, 12% chose neutrality, and 41% said they preferred to do the activities individually. To the point that one student cited as a negative aspect of the experience the excessive number of activities, with few individual activities (EST48). It is inferred that this result may have occurred because the design of the experience in fact favors teamwork and communication, being a competence sought in the DCN (BRASIL, 2021).

In the question about relationships, 73% of the students stated that they had no difficulty in establishing relationships, and in some of the statements of the academics (EST10, EST13,

EST14, EST15 and EST47), the incentive to work as a team was emphasized as a positive point. However, the result of 20% of the students agreeing on the difficulties in teamwork calls our attention and presents a warning for the conduction of the next interdisciplinary pedagogical practices. The following account of the student confirms our concern:

Meu único ponto negativo sobre a disciplina foi a respeito da formação de equipes que ficou confusa com alunos que não estavam em ambas disciplinas. A equipe que fiz parte foi totalmente desmotivante para mim, acredito que o trabalho em equipe seja fundamental na construção de ideias, mas no que diz respeito a minha não houve isso e ainda sim o grande estresse causado. Graças a professora a experiência na disciplina não foi abalada (EST 32).

Chart 2 Behavioral Dimension

Perguntas	1	2	3
I collaborated with my team with ideas, data and information during the development of the work.	4%	2%	94%
I prefer to do the subject activities on an individual basis. *	47%	12%	41%
I have difficulty relating to colleagues on the team. *	73%	8%	20%
I miss classes and team activities due to difficulties with access to technology. *	82%	0%	18%
I miss classes and team activities without a valid reason. *	84%	0%	16%
Overall dimension value	58%	4%	38%

\* inverted values, discordance is the index searched for.

Legend: 1 disagree (grades 4 and 5), 2 neutral (grade 3), 3 agree (grades 1 and 2)/Source: authors themselves.

Since the classes took place remotely we sought to understand if the student's academic attendance could have been impacted by the lack of access to technology. The results pointed to some absence for this reason in 18% of the students. Attendance was also compromised in 16% of the students who stated that they had missed classes without a justifiable reason. Although these numbers are low, this conduct of absence reflects directly on the cognitive dimension attributed to the students' participation and compliance issues.

In Veiga's (2013, 2016) instrument, the content of the indicators for the emotional dimension (table 3) has to do with the attachment to the educational institution, in which the friendship, received and practiced, is notorious, as well as the sense of inclusion and belonging to the institution. Thus the following indicators of engagement were analyzed: **social coexistence, integration, friendship relations, belonging, and welcoming academic environment.**

The environment of the educational institution perceived by the students is a factor that enhances student engagement with higher education. In this research, 66% of the answers



showed a feeling of welcome, especially citing the openness to dialogue, accessibility, and availability of the professors during the experience. The following student's account can show the affective involvement established:

The way the teacher seems to love what she does, besides the empathetic and loving look she has for the students, making the classes an environment not only of content exposition, but also of welcoming the students (EST21).

As for the indicator referring to belonging, 88% of students revealed that they did not feel excluded during the experience. This is what the student states when he asserts that the format of the classes is highly inclusive, "it is undeniable that the teacher appreciates that the class is participatory, so it favors our learning" (EST45). Regarding the friendship relations established, 57% of the students pointed out the possibility of creating affective bonds of friendship. However adding the percentages of those who remained neutral and disagreeing we find 43% of the participants revealed some difficulty in forming bonds. It may be that the execution of the experience in the remote format has contributed to such a result. However, we corroborate the thought of Ferreira (2014), in which the adaptation to cognitive demands and the social relationships provided by higher education enable affective bonds of friendship - among students and also faculty members - that will serve as the necessary support for success in study projects and professional training.

Some students' reports such as: "a lot of exchange with students and individual attention" (EST34), "the opportunity to work with people from other disciplines" (EST12) and "exchange of experiences in groups" (EST20) justify the 84% responses for the indicator referring to integration. There is also evidence that reinforces the integration with the teachers: "relationship between student and teachers, both kept a communication channel available to students to answer questions and provide guidance about the Project" (EST36).

### Chart 3 Emotional Dimension

Perguntas	1	2	3
My university is a place where it seems to me that others like me.	14%	20%	66%
During classes and team activities I feel excluded. *	88%	4%	8%
During the classes and team activities I was able to make new friends easily.	25%	18%	57%
During classes and team activities I feel integrated.	12%	4%	84%
During classes and team activities I feel lonely. *	59%	8%	33%
Overall dimension value	40%	10%	50%

\* inverted values, discordance is the index searched for.

Legend 1 disagree (grades 4 and 5), 2 neutral (grade 3), 3 agree (grades 1 and 2)/Source: authors themselves

When asked about social interaction, the students' response regarding loneliness during classes and team activities is 41% between neutrality and agreement on feeling alone. Still apparently contradictory to the previous indicators, except for the indicator on friendship, it is also necessary to pay attention to the appreciation of the relationships formed in the academic space. According to Severo et al (2020) these relationships are configured as adaptation processes that students build when they enter this new educational space, which contains its own arrangements of institutional, pedagogical, and social organization. Moreover, according to Lam et al. (2011) students with high affective involvement enjoy learning and tend to enjoy attending classes more.

As already described, the fourth dimension of engagement according to Veiga (2013, 2016) is related to the students' actions, their reactions in the scenario of protagonism, that is, it positions the student as the "agent of the action". In this dimension we consider the indicators related to student engagement as: contribution with suggestions, communication and intervention, expression of interests and preferences, proactive participation and ability to question.

According to Table 4, the agency dimension was the one that presented the lowest result (50%), that is, half of the students evaluated themselves as not being "agents of action" while they carried out the interdisciplinary experience. In particular, the indicators: contribution with suggestions, expression of interests/preferences and the ability to question showed less satisfactory results between neutrality and disagreement. The most satisfactory results were among the indicators: communication and intervention (76%) and proactive participation (63%), corroborated by the statement of one student that "the interdisciplinary experience sharpened his sense of proactivity" (EST42).

We understand that this indicator still does not present a satisfactory evaluation by the students indicating engagement in this dimension. Therefore, it is also through the constructive contribution of the student in the agentic dimension that we should direct our pedagogical practices, interdisciplinary or not, in order to facilitate the student's protagonism and achieve quality results in the academic educational scenario.

**Chart 4** Agentic Dimension

Perguntas	1	2	3
I make suggestions to the teacher to improve the lessons.	43%	20%	37%
During lessons and team activities, I intervene to express my opinions.	16%	8%	76%
I comment to the teacher when something interests me.	24%	14%	63%
I talk to the teacher about what I like and don't like.	39%	29%	31%
During the lessons, I ask the teacher questions.	37%	16%	47%
Overall dimension value	32%	17%	51%

Legend: 1 disagree (grades 4 and 5), 2 neutral (grade 3), 3 agree (grades 1 and 2)/Source: authors themselves

## 6.2 SOBRE A EXPERIÊNCIA INTERDISCIPLINAR NO CURSO DE ADMINISTRAÇÃO

Understanding the profile of the engagement of Administration students, we will describe the interdisciplinary experience, starting with the objectives of the proposal. We agree with Hutchison (2016) about the importance of the presentation of objectives and the detailed explanation of the interdisciplinary project to the participants to achieve the results. The students' approval was perceived with an overall average of 1.66 points, that is, the respondents agree that the proposed objectives were achieved. In an analysis of the percentages, the objective about developing teamwork and communication skills was the one that received the most neutral scores, 20%, and the lowest value of agreement, with 71%. We can also see that the students, in a recurrent manner, evaluated the questions about teamwork less positively than the others throughout the survey.

As for the pedagogical proposal, we noticed that the evaluation was positive, with an average of 1.74, and took place in a learning and relaxed atmosphere, encouraging the creativity and autonomy of the students (FAVARÃO; ARAUJO, 2004). In this set of questions, two deserve special attention, the first one because 92% of the students agreed that they had autonomy to research, being the protagonists of their learning. As analyzed above, it seems curious that in the indicators related to the agentic dimension, the scenario of protagonism explained here was not so present in the student's self-evaluation, characterizing this dimension as the one with the lowest index in the profile of the engagement of participants in this interdisciplinary experience.

On the other hand, on the difficulty of learning in the interdisciplinary format, we had 33% who agreed with this question and another 14% who were neutral, which raises the alert to how the practice can be improved. With the open questions it was possible to infer that the nature of this difficulty includes the difficulty of operationalizing the two curricular components in which not everyone was enrolled in both, thus compromising the composition of the teams and generating confusion, in some situations, about the directions of each teacher.

Again comparing this result with the indicator of the cognitive dimension, analyzed earlier, it only did not seem contradictory, because the students evaluated interdisciplinarity as positive (90%) from the individual point of view, i.e., they said they sought to relate what they learned among the curricular components of the experience. The difficulty pointed out here was of a more collective and operational nature, returning to the difficulty in working in teams. Here are some statements that ratify the negative points mentioned by some students:

The difficulty in articulating the same company in both disciplines. The organization in Business Games was smooth, but we had mishaps in Strategic Planning. At times there was a low participation of some teammates, despite the interaction of the rest (EST4) Interdisciplinarity, I liked the proposal, however the way it was distributed among the students was a bit messy because there were always discussions about "Teacher "A" said it should be done like this, but the other said it was like this. Not all students were enrolled in both disciplines, I speak for myself that my biggest difficulty was having to follow the orientation of a teacher that I was not following the class (EST26).

The academic engagement is promoted with the insertion of teamwork and collaboration in the teaching-learning pedagogical proposals. The design of the interdisciplinary experience that we now investigate was all elaborated from team activities that were constituted by the students themselves. In this way, when each team was formed, they filled out the Team Status Canvas tool with the objective of establishing an action contract between the members. We observed that for 84% of the students the team commitment signed by the Team Statute was fundamental for the success of the experience.

When we asked about the formation of the team by members of the same discipline, the response was balanced between agree and disagree, that is, there was no clear position regarding this composition. However, one student explained the absence of teamwork as a negative point of the experience:

I believe that my main difficulties in this chair, was not the discipline, but the teamwork, which did not happen. Our team was the largest in the chair and the largest in lack of communication, the participants were not available to go to the meetings with the client, they always had problems to solve on those days [...] it was frustrating to have to deal with adults who had no commitment to teamwork (EST45).

We firmly understand how relevant it is for the construction of knowledge and for the development of competencies of the future administrator to know how to work in teams, so in the next interdisciplinary experiences we intend to define the formation of teams together with the students, including setting aside a specific class to fill out the Team Statute under our mediation.

This understanding is based on the competencies for the administrator described in the DCN of the Administration course (BRASIL, 2021).

As for infrastructure, methodology and content, the overall average on the scale was 1.5 points. In an analysis of the percentages we observed that 96% of the students considered the content current and appropriate to professional requirements. This high percentage stands out and recognizes that the experience now carried out contributed in the students' view to the preparation for the real work situations of the future administrator. It also corroborates the emancipatory education (BRISOLLA, 2020) through interdisciplinarity and active learning methodologies, both strongly recommended in the DCN of the Administration course (BRASIL, 2021). In the students' voice some more positive aspects of the experience:

Teaching proposal aligned with the development of current skills for the labor market and differentiated teaching practice of the subject (EST31). The course was very fruitful. Being able to put into practice the knowledge obtained during the administration course with consulting was of great value for the construction of our professional careers (EST25).

The adoption of the PBL methodology (86%) and the use of educational technology (88%) were highlights in the student evaluation. Specifically, when asked which educational technologies they would recommend for use in upcoming experiences, these students indicated a full panoply, these are: *Miro, Prezi, Google Classroom, Sigaa, Notion, Jamboard, G-suite, Padlet, Kahoot, Socrative, Mentimeter, Canva, and Whatsapp*. Besides suggesting together the adoption of quizzes, games, videos, movies, concept maps, and gamification strategies. Results aligned with the thought of Bergamini, Fatina and Garcia (2020), who place the interdisciplinary practice as a way to develop new solutions from the interaction of different methodologies and content.

## **7 CONCLUDING REMARKS**

As teacher-researchers, the innovative and creative teaching practice is a motivating factor, therefore the interest in discovering the contribution of this interdisciplinary experience for the engagement of students in the Administration course at UFMA was a genuine concern to understand our role as teachers in the preparation of these new professionals. To this end, conducting this study from the student's point of view was an important premise in the sense of analyzing how they position themselves in relation to the study itself - dimensions of student

engagement - and also their critical view of the teaching methodologies and practices in the course they chose for their professional activity.

Thus, it was possible to characterize the term engagement and its dimensions, showing a profile, from the scale of Veiga (2013, 2016), more cognitive and behavioral of students, highlighting their attitude to participate in the proposed activities and understand the content for a more conscious application, with some emotional involvement (being sensitive to teamwork), on the other hand, less agency, being demonstrated in the analysis this behavior with less protagonism than expected. We understand that this situation is the result of a cultural paradigm, in which the teacher, the holder of knowledge, is expected to explain and pass to the student what needs to be done and how he/she should think. Within higher education we work to change this, especially given the purpose of the university and the needs of the market.

Once concerned with the education of this future professional, associations were made between the DCN of the Administration course and the interdisciplinary practice, showing its necessity to develop the necessary competencies in students. In this sense, the students' perception of the interdisciplinary experience was very positive, both in terms of reaching the objectives and the pedagogical proposal presented, as well as the infrastructure, methodology and content covered. However, the teamwork was a controversial dimension. At the same time that they affirmed that it was necessary and fundamental, they found it very difficult to develop this collective work, with a balanced evaluation between agreement and disagreement, besides presenting a posture of neutrality or indifference in this aspect.

Therefore, we recommend that rules and awareness of teamwork be designed with more attention, but not excluded, since communication and interaction are essential professional skills. In this paper we chose to highlight the viewpoint of the psychological perspective that predominates the understanding of student engagement, however, we intend in upcoming research to incorporate the sociological perspective around this phenomenon as Shirley (2022) recommends for a deeper understanding of student engagement and its context. We point out that the study was done on an interdisciplinary practice of the Administration course at UFMA, restricting its inferences to this context, being still necessary to advance in institutionalized terms for a culture of interdisciplinarity and student and faculty engagement in the revision of their pedagogical projects.

Finally, we highlight the importance of articulation and faculty engagement for an interdisciplinary experience to be successful, allowing the development of innovative projects



that work on the student's creativity to think of new ways and new solutions from the interaction among the contents.

## REFERÊNCIAS

ARANTES, S. S.; MONTEIRO, S. B. Competências definidas nas diretrizes curriculares nacionais do curso de graduação em administração, bacharelado: existem dificuldades de avaliação e certificação na prática do dia a dia em sala de aula? **Caderno de Administração**, 10(1), 1-29, 2016.

ASPEÉ, J.; GONZÁLEZ, J.; CAVIERES-FERNÁNDEZ, E. El compromiso estudiantil en Educación Superior como agencia compleja. **Formación Universitaria**, La Serena, v. 11, n. 4. p. 95-108, 2018. [http://dx.Doi.org/10.4067/S0718-50062018000400095](http://dx.doi.org/10.4067/S0718-50062018000400095)

BRADBEER, J. Barriers to interdisciplinarity: Disciplinary discourses and student learning. **Journal of Geography in Higher Education**, v. 23, n. 3, p. 381-396, 1999. <https://www.tandfonline.com/doi/abs/10.1080/03098269985326>

BRANDÃO, C. A. L. A transdisciplinaridade. In: PAULA, J. A. de (Org.). **A transdisciplinaridade e os desafios contemporâneos**. Belo Horizonte: Ed. UFMG. p.17-39. 2008.

BRASIL. **Resolução CNE/CSE no. 5/2021**. Sobre as Diretrizes curriculares nacionais do curso de graduação em Administração.

BRISOLLA, Livia. A PRÁTICA PEDAGÓGICA NO ENSINO SUPERIOR: PLANEJAMENTO, INTERDISCIPLINARIDADE E METODOLOGIAS ATIVAS. **Revista Devir Educação**, Lavras, vol.4, n.1, p.77-92 jan./jun., 2020.

BERGAMINI LEONARDO, Sandra; FARINA, Milton Carlos; GARCIA PENOF, David. Desafios da Interdisciplinaridade no Ensino Superior: o Papel do Coordenador de Curso nos “Projetos e Atividades Especiais – PAES”. **Administração: Ensino e Pesquisa** [en linea]. 2020, 21(1), 24-51. ISSN: 2177-6083.

CFA. **Conselho Pleno do CNE aprova as novas diretrizes do curso de Administração**. 2020. <https://cfa.org.br/conselho-pleno-do-cne-aprova-as-novas-diretrizes-do-curso-de-administracao/>

D'ARRIGO, F. P. et al. Envolvimento dos alunos do curso de Graduação em Administração: aplicação de escala multidimensional. **Revista Gestão Universitária na América Latina – GUAL**, v. 8, n. 3, p. 204-218, 2015.

FAVARÃO, N. R. L.; ARAÚJO. C. S. A. Importância da Interdisciplinaridade no Ensino Superior. **EDUCERE**. Umuarama, v.4, n.2, p.103-115, jul./dez., 2004.

FERNANDES, T. **Ensino das Ciências orientado para a Aprendizagem Baseada em Projetos**: concepções e representações de práticas de professores de Física e Química.

[Dissertação de mestrado, Universidade do Minho]. 2018. <http://hdl.handle.net/1822/54759>

FERREIRA, A. L. (2014). Socialização na universidade: quando apenas estudar não é o suficiente. *Educação em Questão*, 48(34), 116-140. <https://doi.org/10.21680/1981-1802.2014v48n34ID5732>

FRIEDRICKS, J.; BLUMENFELD, P.; PARIS, A. School engagement: potential of the concept, state of the evidence. *Review of Education Research*, v. 74, n.1, p. 59-109. 2004. <https://DOI.org/10.3102/00346543074001059>

HUTCHISON, M. The Empathy Project: Using a Project-Based Learning Assignment to Increase FirstYear College Students' Comfort with Interdisciplinarity. *Interdisciplinary Journal of Problem-Based Learning*, 10(1). (2016). <https://doi.org/10.7771/1541-5015.1580>

IRALA, V. B.; OLIVEIRA, G. L. As múltiplas abordagens sobre engajamento de estudantes: um estudo descritivo a partir da plataforma SciELO. p.105-138. In: **Engagement acadêmico no ensino superior: proposições e perspectivas em tempos de Covid-19** / Rosa Maria Rigo, José António Marques Moreira e Sara Dias- Trindade (org.). – Porto Alegre: Ed. da UFCSPA, 2020. Recurso on-line (246 p)

JAPIASSÚ, H.; MARCONDES, D. **Dicionário Básico de Filosofia**. Rio de Janeiro, 2001.

MARTINS, Letícia; RIBEIRO, José Luis Duarte. Engajamento do estudante no ensino superior como indicador de avaliação. Avaliação: **Revista da Avaliação da Educação Superior**, Campinas, SP, v. 22, n. 1, p. 223-247, 2017.

MORIN, E. **Os setes saberes necessários à educação do futuro**. 2. ed. São Paulo: Cortez, 2011. Trad. Catarina Eleonora F. Silva e Jeanne Sawaya.

NASCIMENTO, Ernandes Rodrigues do; BRITO, Isabel Pauline Lima de; PADILHA, Maria Auxiliadora Soares. Engajamento de docentes na educação superior: implementando ensino híbrido. **Revista e-Curriculum**, São Paulo, v.18, n.2, p. 951-969 abr./jun. 2020 e-ISSN: 1809-3876 Programa de Pós-graduação Educação: Currículo – PUC/SP.

REEVE, J.; TSENG, C. Agency as a fourth aspect of students' engagement during learning activities. *Contemporary Educational Psychology*, v. 36, p. 257-267. 2011. <https://DOI.org/10.1016/j.cedpsych.2011.05.002>

SEVERO, J. L. R. L., CARREIRO, G. N., MORAIS, M. S., PAIVA, C. L. C., DURÉ, R. C. “Ser estudante” no ensino superior: aspectos valorativos da experiência na perspectiva discente. **Linhas Críticas**, Brasília, DF, v. 26 (2020), p. 3-21. DOI 10.26512/lc.v26.2020.32512

SHIRLEY, Dennis. **Cinco caminhos para o engajamento: rumo ao aprendizado e ao sucesso do estudante**. Porto Alegre: Penso, 2022.

SOUZA, Maria Cristina Almeida de. Et al. Interdisciplinaridade no ensino superior: de imagem-objetivo à realidade. **RBEM**, 36 (1, supl. 2), 158-163; 2012.

VEIGA, F. H. Envolvimento dos Alunos na Escola: Elaboração de uma nova Escala de Avaliação. **International Journal of Developmental and Educacional Psychology**, v. 1, n. 1, p. 441- 450, 2013.

VEIGA, F. H. Assessing Student Engagement in School: Development and Validation of a Four-dimensional Scale. **Procedia Social a Behavioral Sciences**, v. 217, n. 351, p. 813-819, 2016.