

## The monitor's perspective acting on university pedagogical innovation

### ARTIGO

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### Abstract

The current work presents the point of view of the student monitors regarding the actions carried out during the Pedagogical Innovation Project. The experience took place in an engineering graduation and lasted two semesters. As main activities, the pedagogical innovation monitors carried out monitoring in disciplines, carried out leveling activities at the beginning of the semester, in addition to organizing and teaching academic workshops, with themes related to daily student practice. This study shows that the Pedagogical Innovation Project helps in the teaching-learning process, providing monitors with personal and professional growth. The main challenge was the poor adherence of students to monitoring activities. Even so, we believe that monitoring promotes the learning process, as it monitors students at their own time, pace and progress, according to the individuality of the student.

**Keywords:** Monitoring. College education. Education.

### A perspectiva do monitor atuando na inovação pedagógica universitária

### Resumo

O trabalho apresenta o ponto de vista dos alunos monitores em relação às ações desempenhadas durante o Projeto de Inovação Pedagógica. A experiência ocorreu em um curso da área de engenharia e teve duração de dois semestres. Como principais atividades, os monitores de inovação pedagógica realizavam monitoria em disciplinas, faziam atividades de nivelamento no início do semestre, além de organizar e ministrar oficinas acadêmicas, com temas relacionados à prática discente cotidiana. O presente estudo mostra que o Projeto de Inovação Pedagógica ajuda no processo ensino-aprendizagem, proporcionando crescimento pessoal e profissional aos monitores. O principal desafio foi a baixa adesão dos discentes às atividades da monitoria. Ainda assim, acreditamos que a monitoria promove o processo de aprender, pois faz o acompanhamento dos estudantes no seu próprio tempo, ritmo e avanço, de acordo com a individualidade do aluno.

**Palavras-chave:** Monitoria. Ensino superior. Educação.

## 1 Introdução

Many students find it difficult to achieve the objectives set out in the curriculum, and in higher education this is becoming increasingly common. As a result, universities have stepped up the development of projects focused on pedagogical innovation, involving the entire academic community, with the aim of resolving academic deficits and limitations in the most diverse spheres.

When we reflect on how pedagogical practices can be carried out using various teaching methodologies, we see that universities are constantly investing in strategies that can result in more effective learning, resulting in better pass rates. Braun and Melo (2020) highlight tutoring as a methodology for improving education, which provides for the development of students' skills through educational and pedagogical processes and interaction between students and tutors.

Academic tutoring is a teaching-learning modality that meets the needs of university education as it involves undergraduates in the activities of organizing, planning and carrying out teaching work. In this way, it consists of pedagogical work in which the teacher guides and is assisted by the monitor, who, by demonstrating greater ability in a particular area of knowledge, helps in the teaching-learning process (Garcia, 2013).

In the development of innovation projects, the student monitor takes on a prominent role, since they are directly interacting with the students being monitored and the teachers. Casagrande *et al.* (2013) state that the student monitor is part of the student scenario, since they are in the same age group as the students being monitored, have familiar language, as well as experience as a former student in the subjects they help with - factors that contribute to awakening empathy and freedom and to helping colleagues.

Within monitoring, the activities undertaken by the student monitor are intended to help the teacher and also to be a support strategy, especially for students who have difficulties throughout the undergraduate course, highlighting the role of the student monitor in contributing to the training process of other students at the university. Ferreira (2010) describes a monitor as a student who assists the teacher in teaching a subject, for example, by applying exercises and clarifying doubts outside of regular classes. It is clear that the

monitor helps the teacher in the process of facilitating learning, but the monitor does not replace the teacher.

The work of Santos and Batista (2015, p. 205) states that the duties of the monitor can vary according to the subject and institution, and that a multitude of activities are carried out by monitors, such as:

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- to facilitate understanding of the subject by means of tools;
- to optimize/facilitate communication between peers;
- to organize doubt sessions/meetings for collective study;
- to delve deeper into topics that will be important to the students;
- to guide students on the study material to be used;
- to arouse student interest in the module/axis;

In this context, the current work reports on the study developed during a pedagogical innovation project (PIP) and presents the point of view of the student monitors in relation to the actions carried out during the project.

## 2 Methodology

This is a descriptive study based on the experience of student monitors at a university campus with four undergraduate courses. The investigation took place in an engineering course, in the municipality of Gurupi/TO, during the 2022.1 and 2022.2 semesters. The details of the pedagogical innovation project are detailed in the following topics.

### 2.1 Pedagogical Innovation Project (PIP)

As part of the Institutional Program for Pedagogical Innovation (PIIP), the university studied runs an annual selection process to select, support, monitor and evaluate PIPs that

have innovative proposals and bring transformations to the teaching-learning process using innovative educational methods, tools and technologies. At the institution where the project was developed, the PIPs must adopt a new way of thinking about the teaching-learning process, involving innovative pedagogical experiences that take place in the classroom and promoting reflection on the knowledge and practices of university teaching. The institution encourages the creation of a PIP per degree course.

As an integral part of the PIP, the pedagogical innovation monitor (MIP) is an on-campus undergraduate student who is linked to a PIP and is selected by the coordinator on the basis of duly established criteria. The MIP is selected by analyzing the Lattes curriculum, the Academic Performance Coefficient and an interview. The monitor receives a monthly grant to carry out monitoring, and must devote 12 hours a week to these activities.

## 2.2 Period and monitors analyzed

The duration of the monitor's activities in the PIP was 8 months, and the MIP could remain in the project (PIP) for the same period. If any of the monitors dropped out, the first alternate on the list from the selection process was called up. The PIP, the subject of this study, had a total of 10 monitors over the eight months. It is worth noting that the student monitor cannot accumulate the project grant with any other type of institutional grant. The MIPs were students from different academic periods, but all were from the same undergraduate course.

## 2.3 Monitoring activities

At the start of the project, the monitors were separated by area of affinity, forming groups of monitors in the areas of calculus, chemistry and biology.

As their main activity, the MIPs monitored subjects with a high failure rate, subjects with specific teacher demand and subjects with student demand. The tutors defined the

day and time of the tutoring in order to meet the needs of the students being tutored. The tutors also carried out placement activities at the beginning of the semester, focusing on new students. In addition, the monitors organized and prepared academic workshops on topics related to everyday student practice.

## 5 2.4 MIP monitoring evaluation

At the end of the PIP, the student monitor was sent a form with objective and discursive questions so that he could evaluate his activities throughout the project (Table 1).

Table 1. Form with the questions answered by the monitors

Did you find it difficult to adjust your timetable in order to accommodate the largest number of students?
Was it difficult to reconcile the monitoring activities with the subjects you were taking?
Did the workload overload you?
Did the Pedagogical Innovation Project pose any challenges for you as a monitor?
If you checked yes in the previous question, what were the challenges?
How many subjects were you assigned to monitor?
How many subjects did you actually monitor?
Describe the subject for which you had the greatest demand from students.
How do you think you contributed to the presentation of the academic workshops?
Have you worked as a monitor before?
Do you agree that your performance as a student has improved after working as a tutor?
How do you think tutoring helps to strengthen teaching and learning?
About the assistance: - The students assisted were from different courses and periods. - The students assisted were from the same course and period. - The students assisted were from the same course, but from different periods.
What was the greatest demand you had as a tutor? - Doubts on the day before exams. - Doubts about solving exercises. - Doubts on the day before exams, content and exercises.

You realize that the greatest demand for tutoring is due to: - The demand from students to maintain a study routine. - Students' difficulties with a particular subject.
Do you think the monitor's activity is valued and well regarded by the other students? Explain.
What encouraged you to become a monitor? - I'd like to have more teaching experience. - Scholarship and extra credit. - I'm looking for continuous learning. - To improve my CV, because of the grant and teaching experience.
Do monitors need to attend training courses to improve their monitoring duties?
Present the negative points you have found in relation to monitoring.
What are some of the positive points you've found in your role as a monitor?

Source: the author

## 3 Results and Discussion

### 3.1 Monitor profile

Most of the monitors were from the early stages of the course. We believe that this is due to the high workload of subjects in the middle of the course, which limits the participation of students from these periods, especially due to the 12 hours of weekly activities that the monitor has to dedicate. One limitation we had with this predominance of students from earlier periods is that it is impossible to monitor subjects from later periods of the course, since the monitor needs to have studied the subject in order to be able to monitor it. According to Medeiros *et al.* (2020), monitoring makes it possible to improve the student monitor's organizational capacity, since they need to fulfill the workload of their activities, resulting in a greater maturing of the student-monitor's autonomy and teaching profile.

When we asked the student monitors if they had ever worked as a monitor, four said yes and six said no. We believe that monitoring provides skills and competences. We believe that tutoring provides skills and abilities not only in the academic sphere, but also

in professional life. In this sense, the students involved in monitoring develop expertise that is provided by the activities carried out as monitors.

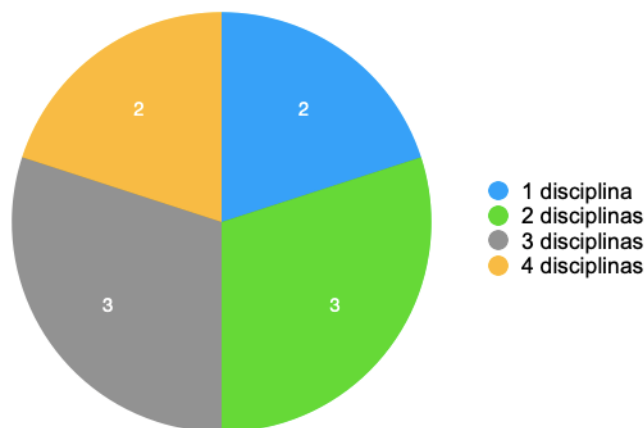
### 3. 2 Dedication to monitoring

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At the start of the activities, the monitors were separated by area of affinity, and it was possible for the student monitor to be responsible for monitoring more than one subject or to share the monitoring of the same subject with another monitor. At first, the monitors were apprehensive, wondering if they would be able to monitor many subjects. The answers to the question “how many subjects were you assigned to monitor?” were: 1 subject - 2 monitors; 2 subjects - 3 monitors; 3 subjects - 3 monitors; 4 subjects - 2 monitors (Graph 1). In the answers where there were more than 3 subjects per monitor, the monitors were sharing the monitoring of the same subject. This could be seen when the monitors were asked in how many subjects they actually provided assistance and 9 answered between 1 and 2 subjects.

Graph 1. Monitors' responses regarding how many subjects you were assigned to monitor.





Source: the author

When asked if the monitors found it difficult to adjust their timetables to meet the needs of the largest number of students, 6 said yes and 3 mentioned that they occasionally faced difficulties. With regard to reconciling monitoring activities with the subjects they were studying, 4 monitors said that it was not difficult to reconcile activities and 4 said that they sometimes had difficulties. Seven monitors said that the workload did not overload them, while three said that they were overloaded.

Often, being a teacher is not stimulated as an undergraduate, as they are overloaded with many activities, such as seminars and internships. In some cases, this situation can lead to the early loss of a potential teacher, due to a lack of encouragement; however, in other cases, a sensitive and perceptive eye can discover this affinity for teaching. This encouragement can come from a teacher, a class/work colleague, or even a family member who highlights their qualities for training and teaching (Lima and Oliveira, 2019).

### 3.3 Monitor activities

The undergraduate course to which the PIP, the focus of this work, is linked to the field of engineering. In this context, one of the course's problems is the high failure rate in



calculus subjects. According to the monitors, the subjects with the highest demand were: “Introduction to Electricity and Magnetism”; “Applied Thermodynamics”; “Analytical Geometry”; and “Vector Calculus and Mechanics”. There was also demand for subjects such as “Genetics”, “General Chemistry” and “Fundamentals of Toxicology”.

In terms of assistance provided, the greatest demand was from students on the same course, but from different periods, followed by assistance provided to students from other courses and different periods. With regard to the greatest demand, 7 said that it was most common on the eve of exams. When asked which factor generated the greatest demand for tutoring, one tutor replied that students were trying to maintain a study routine. However, 9 tutors realized that the greatest demand for tutoring was always due to students' difficulties in a particular subject, i.e. the demand was usually motivated by problems in understanding the content of a subject.

In order to provide assistance, the MIP would define the day and time of assistance in advance and would publicize it among the students who were studying a particular subject. For a more comprehensive service, the MIP could define the form of the tutoring, whether it was face-to-face or remote. The monitor could adjust his or her schedule according to the greatest demand from students for a given day and time. In some cases, there were few students present, and in many other cases, the MIP did not monitor due to the total absence of students. Matoso (2014) mentions the lack of interest on the part of students in attending and taking part in tutoring, as well as the distance between teacher and tutor, as difficulties in tutoring, which highlights the need for greater interaction between tutors and their tutors, both to guide them and to mediate the teaching-learning process. Here we can highlight a statement made by a MIP, when he said the main limitations encountered in tutoring: “...in addition to the lack of demand from students, the lack of support from the teacher of the subject I tutor.” As an integral part of the monitoring within the PIP, the participation of teachers was on a voluntary basis, so we had the collaboration of a few teachers throughout the project.

The work by Batista and Barreto (2019) states that tutoring, as a non-compulsory academic activity, provides participating students with entry into educational spheres,

criticality in teaching and learning, responsibility and higher pass rates in the subject where the tutoring is carried out. However, the authors highlighted the challenge of low student participation in tutoring activities. This low adherence ends up discouraging the student monitor, and this was evidenced when we asked the monitors if they believed that the monitoring activity was valued and appreciated by the other students. The monitors believe that this is mainly due to the fact that most of the students don't show up for the tutoring sessions.

Regarding the leveling activity, this was only carried out at the beginning of the 2022.2 semester, since the PIP activities began while the 2022.1 semester was in progress. The MIP activity comprises an out-of-class action that seeks to remedy the difficulties encountered not only in the classroom, but also to help students with content deficits that are the basis for many subjects on the course. Many of the students entering university have difficulties with content still left over from secondary school. Leveling seeks to help clarify this content, as a lack of mastery and understanding, especially in calculus, can interfere with the student's enjoyment and motivation in subjects with this theme, generating even more difficulties and lower results than desirable (Pinheiro and Rebolças, 2018).

Another activity carried out by the monitors was the preparation and delivery of academic workshops on topics such as: creating the Lattes curriculum; using virtual editing tools; formatting academic work and statistics applied to research. Before the workshops were held, a survey was carried out with the students and it was found that many of them did not have basic knowledge of many of the topics covered in the workshops, and it was reported that some students failed to take part in selection processes within the institution itself because, for example, they did not have a Lattes curriculum. Support for university students should include, in addition to psychological and social support aspects, which are more common, interventions also focused on the processes and difficulties in the teaching-learning relationship (Faria, 2010), as well as support for the day-to-day activities of academic life, which are not only linked to the content of the subjects. One of the monitors stated that:

*“...in addition to the exchange of experience that we acquire throughout the organization, such as discipline, commitment, knowledge and self-control, we contribute to the transmission of knowledge, we awaken interest and motivation in the students for the course/university life”.*

Basso *et al.* (2013), in a study of workshops with university students, observed that some of the students who seek out the workshops aim to improve their academic performance, which also opens the way for initiatives that aim to enhance student learning and not just remedy the gaps observed. The workshops held in this project were well attended by students.

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### 3.4 Monitoring as teaching practice

The MIP were asked for the reason that most encouraged them to become monitors. Five said they wanted to gain more teaching experience, two decided to become monitors because of the grant and the extra credit hours, and two were looking for continuous learning. This method can enable transformations on a social and cognitive-intellectual level, improving and enriching the student's curriculum (Andrade *et al.*, 2018). Eight monitors also stated that their performance as a student improved after acting as a monitor.

Academic tutoring expands knowledge and contributes to reflective and critical professional training, moving closer to teaching in higher education (Silva *et al.*, 2019). At a curricular level, it is confirmed that mentoring stimulates future teaching, since it allows the articulation between student/mentor and teacher, inside and outside the classroom, enhancing the construction of teaching and guaranteeing the monitor's participation as a knowledge-building agent, demystifying the figure of the teacher as the holder of immutable knowledge (Senra and Rodrigues, 2014). In this way, mentoring represents a period of identification between undergraduates and higher education, and is characterized as an incentive, especially in teacher training, making the student monitor glimpse the work of teaching and become more prepared to take on a similar role in the future (Dantas, 2014).

The student monitor experiences the first joys and setbacks of being a university teacher in their teaching work, in an amateur way. The fact of being in direct contact with other students, also as an academic, provides extraordinary and unique situations, ranging from the joy of contributing pedagogically to the learning of some to the momentary disappointment in situations where the conduct of some students proves to be inconvenient and discouraging (Assis *et al.*, 2006).

### 3.5 Challenges for the student monitor

Throughout the monitoring activities, 7 of the monitors said that they had been challenged in the process. We can highlight a few comments:

MIP-A. *"One challenge was the contact with the teacher of the subject, I think it would be better if she gave some tips on the content that should be reinforced with the students."*

MIP-B. *"Improving interpersonal relationships and knowing how to adapt to the reality of the students being monitored."*

MIP-C. *"Firstly, finding the best timetable for everyone was a challenge, as was finding the most effective teaching methods."*

MIP-D. *"Despite the great experience as a tutor and the great benefits we've gained, the tutoring project doesn't come off so easily, due to lack of interest on the part of the students, mismatched schedules, lack of appreciation of tutoring at the university, and lack of interest in tutoring on the part of the subject teachers."*

One of the difficulties in carrying out the monitoring activities was the permanence of the MIP throughout the project, as many of the monitors chose to give up monitoring in favor of other scholarships, such as the PIBIC Scholarship - Institutional Program for Scientific Initiation Scholarships. Thus, when the monitors began to integrate into the work and understand the whole monitoring routine, the incompatibility in the reconciliation of scholarships led to them giving up, the next alternate being called up and the whole integration process beginning again.

The monitors also reported on the importance of taking training courses. We believe that these courses can better prepare monitors who have never worked as monitors or improve those who already have experience. Some websites offer courses on active methodologies remotely and free of charge. Throughout the project, we encouraged tutors to take these courses, allowing them to explore a wide range of methodologies, which can lead to better results for the tutored student.

## 4 Conclusions

This study shows that the Pedagogical Innovation Project helps in the teaching-learning process, and knowing the student's reality in order to adapt the approach to educational methodology enhances this process.

The tutoring experience provided MIP with personal and professional growth, as it resulted in an improvement in the tutoring student's performance and also gave them real experience of teaching activities.

The monitors also faced challenges throughout their work, the main one being the low level of student participation in the monitoring activities. However, according to the literature, similar situations are found in various works on academic tutoring. Even so, we believe that tutoring promotes the learning process, as it accompanies the student being tutored at their own pace and progress, respecting the student's individuality.

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