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Undergraduate monitoring: Discipline of research methodology

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ABSTRACT
This study constitutes an experience report of academic monitoring activities developed in the Research Methodology discipline of the undergraduate course in Nutrition at the Federal University of Goiás (UFG). The aim is to describe the experience in voluntary monitoring of the discipline for students of the second period of the graduation course in nutrition at UFG. This report highlights the importance of monitoring as an instrument for training and academic development of the monitor, and facilitating the learning of the students. Furthermore, the monitor constitutes a link between the adviser teacher and the student, who encourages changes and adaptations aimed at improving the teaching-learning process.

Keywords: monitoring, tutoring, undergraduate teaching, scientific research, education.

1 INTRODUCTION

Monitoring is a teaching and learning modality that contributes to the integrated training of students in teaching, research and extension activities of undergraduate courses (DANTAS, 2014). It is understood as an instrument that contributes to the improvement of undergraduate edu

cation, through participation in technical-didactic activities and pedagogical experiences aimed at strengthening the articulation between theory and practice, promoting cooperation between monitor-teacher and monitor-students of the discipline, as well as consolidating the knowledge acquired by the monitor (DANTAS, 2014; NATARIO; SANTOS, 2010).

In addition to contributing to the learning process of the monitor and students, the monitoring is also enriching for the teacher and for the discipline. By acting as a link between the guiding teacher and the students, the monitor contributes to the teaching-learning process, facilitating the resolution of difficulties and doubts in relation to the content taught, and incorporating new solutions and pedagogical practices, more efficient and accessible to students (AIRES; AIRES, 2023; SILVA; BELO, 2012).

Monitoring is an academic modality that has existed for decades in Brazil, since it was created and regulated by law No. 5540 (BRASIL, 1968). However, this modality must be constantly adapted, according to the demands and the new teaching-learning contexts (SANTOS; BATISTA, 2015). In this sense, the dissemination of new experiences and experiences can enrich and update the practice of monitoring. This article is an account of the experience of two monitors in a voluntary monitoring program in the discipline of Research Methodology of the undergraduate course in nutrition of the Federal University of Goiás (UFG), which highlights the negative and positive aspects in the behavior of the students, perceived by the monitors.

2 DISCIPLINE AND MONITORING

This is a study of the type of experience report, of the practice of voluntary monitoring in the discipline of Research Methodology. The selective process of monitoring (paid or voluntary) at the Faculty of Nutrition (FANUT) of UFG occurs through a notice made available by the coordination of the nutrition course to students interested in competing, according to the number of monitoring scholarships available, and the number of voluntary monitoring vacancies informed by the professor responsible for the discipline. The approved student must assist the guiding teacher in the didactic tasks, and fulfill the weekly workload of twelve hours (FANUT, 2019). The discipline of Research Methodology has a monitoring grant in alternate semesters, so that in the semester of 2018-1 there was no vacancy for paid monitoring, so two vacancies were opened for voluntary monitoring.

The discipline of Research Methodology is a compulsory curricular component of the undergraduate course in nutrition at FANUT/UFG, and is offered in the second academic period of the course. It has a theoretical-practical character, with a total workload of 48 hours. The general objective of this course is "to enable the student to seek and select scientific information in nutrition and health and to write research projects and academic papers according to the principles of science, thus contributing to the construction of the knowledge of the undergraduate student in nutrition." To facilitate learning and the achievement of this objective, the discipline is structured with theoretical classes followed by practical classes (Table 1).

Table 1. Content taught in the discipline Research Methodology of the nutrition course at UFG, distributed in five didactic units

1. INTRODUCTION TO MODERN SCIENCE	Modern science and principles of the scientific method
2. SCIENTIFIC RESEARCH IN HEALTH AND NUTRITION	Concepts and characteristics; stages of the research process; types of research (active methodologies – P1)
3. BIBLIOGRAPHIC RESEARCH	Concepts and sources of scientific information; databases; access to scientific databases of abstracts (P2); access to online scientific journals (P3)
4. RESEARCH PROJECT	Structure, content and ethical aspects; lines and research projects of FANUT; formatting of academic papers according to ABNT and FANUT standards (P4 and P5); citations and references (P6)

5. RESEARCH REPORT	Types of research reports; academic reports: structure, content, formatting (P7); formatting of tables and figures (P8); scientific text writing; Scientific articles

P1-P8: practical classes lasting three (3) hours/class; ABNT: Brazilian Association of Technical Standards; FANUT: Faculty of Nutrition.

The two volunteer monitors approved in the selection process met with the guiding teachers to clarify the work schedule and the activities to be developed in the monitoring. A schedule was established according to a work plan and the workload to be fulfilled, including the attendance to interested and/or difficult students, and assistance to teachers in didactic-pedagogical tasks. The activities performed by the Research Methodology monitors and reported in this work refer to an academic semester. All the activities carried out were guided and supervised by the teachers of the discipline, in order to ensure the maximum quality of the work performed. To provide greater academic support to the students, the monitors were instructed to establish contact with them through the creation of study groups and message exchange groups.

3 EXPERIENCE REPORT AND DISCUSSION

The content of the course is taught through theoretical (24 h) and practical (24 h) classes. The theoretical content is explored in expository-dialogued classes, in which different audiovisual resources are used, as well as active methodologies (Unit 2, Table 1). In these classes the following topics are addressed: concepts and principles of modern science and the scientific method; characteristics of scientific research in the area of health and nutrition; types of studies, their characteristics and how to identify them when reading a scientific article; stages of the research process; structure of projects and research reports; principles and tips for writing scientific texts; and research ethics. In the practical classes, activities are developed in the computer laboratory of FANUT, where students could associate theory with practice, by performing systematic and selective bibliographic search in scientific information portals and databases available in the area. Other contents covered in the practical classes are: formatting of academic-scientific works, citation and references, and formatting of tables and figures, according to the standards of the Brazilian Association of Technical Standards (ABNT), FANUT standards (NAVES, 2017), and according to good practices of scientific writing.

In general, the activities developed in the monitoring in Research Methodology were: participation in meetings with the guiding teachers and weekly planning of activities; collaboration in the planning and execution of practical classes; assistance to teachers in the verification of learning – correction of exercises, tests and reports; and assistance, guidance and duty to clarify doubts of students and to reinforce learning.

During the participation in the practical classes, it was noticed the difficulty of the students in the use of basic technological tools for the accomplishment of academic works, such as the Word text editor and the Excel spreadsheet, from Microsoft. The perception of this failure in the basic training of several students alerted to the need for training for the use of these tools before the beginning of the discipline. To solve, the problem was taken to the coordination and to the Structuring Teaching Nucleus of the course, so that strategies were thought and created to train students during the first semester of the course.

Throughout the corrections of the works, it was also observed the practice of plagiarism of students in the writing of scientific texts, without the awareness of this being a scientific misconduct. Making students aware of misconduct and lack of ethics in research is key to developing good practices in conducting scientific research. Thus, this content is inserted in unit 4 of the discipline (Table 1). Rigor and Integrity are prerequisites for the practice of research, for the credibility of scientific activity, and for the continuous progress of science (ABC, 2013).

Another important aspect that should be highlighted was the low demand for monitoring support by the students, which was perceived by the monitors as little interest in the support offered, or in the content of the discipline. According to Silva and Belo (2012), students do not always take advantage of the learning opportunities offered by the educational institution, as in the case of monitoring, and some students tend to neglect this aid or underuse it. This behavior seems to result from the academic immaturity of the first-year students, and from the low prospect of immediate use of the Research Methodology content in other disciplines. After discussing the situation between the professors and the monitors of the discipline, a suggestion was presented to the coordination of the course to change the period of offer of the discipline, from the second to the fourth period of the curriculum of the nutrition course of UFG. This suggestion was incorporated into the new Pedagogical Project of the Undergraduate Course in Nutrition of UFG, implemented in 2022-1, whose first class of Research Methodology will be offered in the semester 2023-2 – 4th academic period of the course. In addition, the form of presentation of the content was adapted, and the number of practical classes was expanded (Table 2), in an attempt to better meet the needs of students and adapt the discipline to the new course project.

Table 2. Content of the discipline Research Methodology adapted to the new pedagogical project of the nutrition course at UFG, and distributed in six didactic units and twelve practical classes

1. INTRODUCTION TO MODERN SCIENCE	Modern science and principles of the scientific method
2. SCIENTIFIC RESEARCH IN HEALTH AND NUTRITION	Concepts and characteristics; stages of the research process; types of research (active methodologies – P1)
3. BIBLIOGRAPHIC RESEARCH	Concepts and sources of scientific information; access to scientific information portals and abstract databases (P2, P3); access to online scientific journals (P4)
4. DESIGN AND REPORT OF RESEARCH	Structure, content and ethical aspects; lines and research projects of FANUT (P5); academic reports: types, structure and content (P6); standards for presentation of papers at FANUT (P7)

5. FORMATTING WORK ACADEMIC	Formatting of academic papers according to ABNT and FANUT standards (P8, P9); citations and references (P10); formatting of tables and figures (P11)
6. DISSEMINATION OF RESEARCH AND SCIENTIFIC WRITING	Dissemination of research: abstract and scientific article; research ethics: authorship of scientific papers; principles and important aspects in the writing of scientific texts (P12)

P1-P12: practical classes lasting two (2) hours/class; ABNT: Brazilian Association of Technical Standards; FANUT: Faculty of Nutrition.

On the other hand, the monitors of the discipline identified positive aspects in the behavior of the students during the monitoring, such as improvement in learning, and benefits achieved in relation to the responsibility, discipline, organization and autonomy of the students. This was mainly due to the greater commitment of the monitors to strengthen and improve communication and relationship with students, and thus, the quality of the teaching-learning process (DANTAS, 2014; FERNANDES et al., 2016). In addition to supporting students and didactic-pedagogical activities, the monitors encouraged the expansion of student participation in teaching and learning activities at UFG, such as participation in research projects. The lines and research projects in progress at FANUT constitute part of the content of Unit 4 of the discipline (Table 1). This content allows students to know and awaken the interest in participating in undergraduate research, in the form of scientific initiation (paid or voluntary).

In the same way as for the students enrolled in the discipline, the monitoring program contributed to the academic training of the monitors, especially in relation to the improvement of communication and the development of responsibility and capacity for criticism, important skills to be developed during professional training. These benefits have also been cited in other monitoring experience reports (DANTAS; LOPES; SILVA, 2018; RABELO; CAMPOS, 2018; SILVA; OLIVEIRA; QUINTINO, 2018). In addition, the monitors had the opportunity to review and improve the technical-scientific contents specific to the discipline. According to Dantas, Lopes and Silva (2018), the monitor needs to dedicate himself to studying and updating himself in relation to the content of the discipline, so that he is able to answer the questions, needs and doubts of the students.

As a consequence of the greater involvement of the student-monitor with academic activities, the practice of monitoring contributes to increase the bond and interest of the student in the course, and to arouse interest in the area of teaching (DANTAS; LEE; Smith, 2018). Thus, monitoring should be considered as a form of initiation and encouragement to teaching in higher education (DANTAS, 2014; NATARIO; SAINTS, 2010). In this perspective, the monitor has the potential to be a candidate, after graduation, to *lato* sensu courses in higher education didactics, *and stricto sensu* courses (master's and doctorate) in his area of professional activity.

Considering the importance of monitoring in the academic training of the monitor, in the learning of students, and in the improvement of the teaching of the discipline and the academic performance of the undergraduate course, this modality should be more valued in the academic

environment. More paid vacancies, better defined criteria for the distribution of vacancies, and specific training for monitors could be strategies for a policy of valuing monitoring in the academic environment.

4 CONCLUSIONS

The practice of monitoring in the discipline of Research Methodology represented for the monitors an opportunity to review and improve the contents of the discipline, and to acquire responsibility and experience of acting in the field of higher education. In addition, it allowed to strengthen the teacher-student relationship, assist in the improvement of the learning process of the students, and evidence the need for changes and adaptations in the way of teaching the content and in the period of offer of the discipline.

This experience reaffirms the importance of encouraging the practice of monitoring for students, and the need to open new vacancies of paid monitoring, especially for disciplines with a strong practical nature and with content applicable throughout academic life, such as Research Methodology. Likewise, one should consider the importance of the discipline as a tool to stimulate participation in scientific research – during undergraduate and graduate *stricto sensu*.

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