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## TEACHING HUMAN ANATOMY TO STUDENTS AT THE CENTER FOR DEVELOPMENT OF POTENTIAL AND TALENT (CEDET): A PARTNERSHIP BETWEEN CEDET AND UNIVERSIDADE FEDERAL DE LAVRAS

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**Abstract:** The Center for Development of Potential and Talent (CEDET) is an educational initiative in Lavras, founded in 1993, with the aim of offering complementary educational support for talented students. Recently, CEDET established a partnership with the Human Anatomy Laboratory at ``Universidade Federal de Lavras`` to teach anatomy in a practical and theoretical way to students from different schools, using traditional and active methods. The project covers several systems of the human body, such as bone, joint, muscle, nervous, circulatory, respiratory, digestive, urinary and reproductive. The results showed great interest from students and an improvement in performance, indicating the effectiveness of this type of interdisciplinary approach. The project not only promoted the learning of human anatomy, but also developed civic and professional skills, and stimulated dialogue between the university and the community.

**Keywords:** Health. Student Development; Education; Community-University Interaction.

## INTRODUCTION

The Center for Development of Potential and Talent (CEDET) is a Special Education center created in Lavras, in 1993. Its creators aimed to create daily experiences and build an environment of educational complementation and supplementation to support gifted and talented students. Since then, it has been assisting in the development of students from public and private schools, operating in three basic areas of concentration: "Creativity, skills and expression", "Humanity, communication and organization" and "Sciences, investigation and technology" (ASPAT, 2024).

According to AULER & DELIZOICOV (2001), Science teaching must be used as an ally in the training of citizens, helping them understand the world in which they live.

However, in the current scenario, alternatives need to be sought in order to implement the current system, linking theory with practice and providing experiences beyond those already existing (FREIRE, 1996).

Thus, within this context, at the end of the COVID 19 pandemic, the partnership between CEDET Lavras/MG and the Human Anatomy Laboratory of ``Universidade Federal de Lavras`` began. The aim was to reinforce theory and combine it with practice and assist in the formation of children and adolescents as citizens, as well as the interaction between society and the University.

Thus, the project aimed to teach Human Anatomy using active and traditional methodologies, seeking to develop knowledge in the areas of biology and health of different body systems, in addition to raising doubts, discussions and the exchange of different perspectives and experiences between the CEDET students themselves and UFLA students involved.

## METHODOLOGY

This is an experience report on teaching topics related to the anatomy of the bone, joint, muscular, nervous, circulatory, respiratory, digestive, urinary and reproductive systems, through the use of traditional and active methodologies, with students from CEDET Lavras /MG.

The project took place during the 2023 academic semesters, where 17 students were served. 3 students participated in the activities in both semesters and 15 participated in just one. Students from state, municipal and private public schools participated. All students were very interested, bringing questions and curiosities related to their daily lives.

The classes were taught at the Human Anatomy Laboratory of the Department of Medicine at ``Universidade Federal de Lavras``. Synthetic and cadaveric pieces were

used, as well as printed material prepared by the student involved in the project and presentation of videos on the subjects studied. In some systems, interactive games were used. For the circulatory system, a board game was created and a dynamic was created using a volleyball to facilitate the understanding of the heart chambers and the direction of the blood within them. For the bone system, collective assembly of the human skeleton was carried out.

At the end of each semester, a comprehensive assessment was carried out to measure students' learning and interest in human anatomy, and try to understand the influence of action on the formation of the individual.

## RESULTS AND DISCUSSION

The gifted and talented student, in the vast majority of cases, goes unnoticed and forgotten, both in relation to the pedagogical intervention he needs, and in relation to his identification. Thus, CEDET emerged as an educational intervention to help develop the potential of these students (Rosimeire dos Santos, 2016).

Teaching Human Anatomy to these students outside their school environment and using different methodologies, such as games, group activities and teaching on synthetic and cadaveric pieces, and considering their learning capabilities, allows exploring this theme, linking it with the reality of life (FornazieroI et. al., 2010).

In the present work, this possibility was explored by combining the study of the anatomy of the human body with everyday events in the lives of students. Based on the questions and comments that arose during the classes, they were conducted in a way that facilitated the understanding of the human body. Furthermore, in all activities carried out, students were very interested and collaborative.

Regarding the bone system, a dynamic assembly of the human skeleton was carried out on the laboratory bench. This activity generated a significant exchange of ideas and knowledge and a search for understanding how bones are distributed in the human body, and the role and importance of each one of them. They compared the human skeleton with the skeleton of other animals, such as the skeleton of birds and four-legged animals. At the time, the quadrupedal position was discussed with the bipedal position.

In the discussion of the joint and muscular systems, physical exercises performed in the gym to gain muscle mass, data obtained in a physical assessment, such as the amount of lean mass and fat mass, and traumas suffered by famous football players came to the fore, which culminated in the rupture of knee ligaments and tendons.

In the nervous system, several pathologies were addressed, such as dementia, Alzheimer's and stroke. It was discussed why a lesion in the right cerebral hemisphere results in sequelae in the left hemisphere, as well as studies carried out with Albert Einstein's brain.

In the circulatory system, there was talk about heart attack, Chagas disease and the cardiac cycle, where the idea of using the ball game emerged as a way to reinforce the direction of blood flow within the heart chambers and the body as a whole. A board game was also played, with entrance exam questions and curiosities.

In the respiratory system, it was discussed how the use of cigarettes can be harmful to health, in addition to pathologies such as asthma, bronchitis and sinusitis, as well as the use of firecrackers and why inappropriate use of them can result in an increase in heart rate with possible heart attack.

Regarding the digestive system, the opportunity was taken to comment on the importance of good nutrition and how it affects

the health of the human body. It was discussed how the digestion process occurs in all organs of this system, such as the mouth, stomach and intestine, as well as the participation of the liver and pancreas in this process.

The last systems to be addressed were the urinary and reproductive systems. Some kidney pathologies were presented, such as kidney stones, inflammation and kidney donation. In the reproductive system, there was talk about contraceptive methods, in addition to discussing the reproductive organs and the importance of good hygiene.

Finally, an individual practical assessment was applied, where it was observed that in the second group, performance was better. It is believed that this occurred due to the fact that students were participating in the project for the second time and the creation of teaching material with the content covered, which allowed students to study at home before the assessment. This demonstrated the importance of support material to assist students in studying and their concern and commitment to the activities that are developed in projects via CEDET.

Furthermore, several students reinforced the importance of their participation in

the project, as it helped with their science studies and a better understanding of the various aspects of the body, among them, a better understanding of its functioning and associated pathologies.

Thus, it is suggested that projects of this nature are important in the training of primary and secondary school students, which helps them both in acquiring knowledge and in their formation as citizens, as there is interaction between students from different schools, ages and realities. Furthermore, as this is a group of talented students, through CEDET they have access to possibilities beyond those offered in their school environment.

## CONCLUSION

This project represents an opportunity for students to learn human anatomy in a theoretical and practical way, while developing civic and professional skills. Furthermore, it encourages dialogue between the university and the community, promoting the collaborative construction of knowledge and an interdisciplinary approach.

**Development Institution:** ``Universidade Federal de Lavras`` (PIBEC/UFLA)

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