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AN ILLUSTRATED PORTFOLIO AS A "SILENT TUTOR" IN LEARNING VETERINARY ANATOMY: A CASE REPORT

Portfólio ilustrado como "monitor silencioso" no aprendizado de anatomia veterinária: um relato de caso

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Abstract

This case report describes the implementation of an illustrated portfolio as a formative assessment tool in the teaching of Veterinary Anatomy at a federal institution. Through a descriptive methodology based on participant observation, the study analyzes how the student independently developed material with digitized hand-drawn illustrations and theoretical reflections. The portfolio emerged as a "silent tutor" to fill gaps in face-to-face mentoring, which was often marked by logistical challenges and bureaucratic practices focused on compliance rather than meaningful learning. The results demonstrate that this strategy promoted greater engagement, autonomy, and knowledge consolidation, overcoming the limitations associated with the traditional supervision model. The study concludes that the portfolio goes beyond a mere academic records, establishing itself as a valuable learning tool in complex disciplines by encouraging student-centered learning and creativity in higher education.

Keywords: veterinary education; illustrated portfolio; active methodology.

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Resumo

Este relato de caso descreve a implementação de um portfólio ilustrado como mecanismo formativo no ensino de Anatomia Veterinária em uma instituição federal. Por meio de uma metodologia descritiva baseada na observação participante, o estudo analisa como o discente desenvolveu, de forma autônoma, um material com ilustrações manuais digitalizadas e reflexões teóricas. O portfólio surgiu como um ''monitor silencioso'' para suprir lacunas da monitoria presencial, marcada por entraves logísticos e práticas voltadas para a conformidade burocrática em detrimento da aprendizagem significativa. Os resultados demonstram que essa estratégia promoveu maior engajamento, autonomia e consolidação do conhecimento, superando as limitações do modelo de supervisão tradicional. Conclui-se que o portfólio transcende o registro acadêmico, consolidando-se como ferramenta essencial para a aprendizagem em disciplinas complexas, ao incentivar o protagonismo estudantil e a criatividade no ensino superior.

Palavras-chave: educação em veterinária; portfólio ilustrado; metodologia ativa.

Introduction

Veterinary Anatomy is the branch of science dedicated to the structural organization of domestic and wild animal species, serving as an indispensable foundation for understanding animal health and pathology (Choudhary; Saini; Challana, 2023; König; Liebich, 2016; Frandson; Wilke; Fails, 2011). In this context, knowledge and understanding of anatomical structures constitute an essential pillar of veterinary education, representing one of the basic prerequisites for future professionals to comprehend both the functioning of the animal organism and the mechanisms underlying the manifestation of diseases (Dyce; Sack; Wensing, 2010; Garcia; Oliveira; Almeida Júnior, 2024).

The teaching of Veterinary Anatomy, despite its central role in professional training, has been described as a challenging component of undergraduate education. Consequently, several studies emphasize the need to adopt active methodologies that foster student engagement and motivation. Among these strategies, the academic portfolio stands out as a pedagogical tool capable of promoting autonomy, creativity, and the consolidation of knowledge (Perez; Corrêa, 2021; Silva; Ferreira; Cotta, 2025). Thus, the effective integration of innovative educational tools has the potential to transform teaching and learning processes in Veterinary Medicine (Garcia; Oliveira; Almeida Júnior, 2024).

This approach is particularly relevant in the teaching of Veterinary Anatomy, a discipline whose inherently visual and spatial nature requires resources that facilitate the three-dimensional understanding of the body structures of domestic animals. To make this understanding possible, monitoring activities become fundamental, providing continuous support for the teaching-learning process and guidance for students (Neves *et al*., 2022).

The present study aims to report the experience of implementing an academic portfolio, illustrated on the student's own initiative, as a formative mechanism in the teaching of Veterinary Anatomy. It describes its construction process, the pedagogical implications of academic monitoring, and the contributions of this tool to the teaching-learning process.

Case description

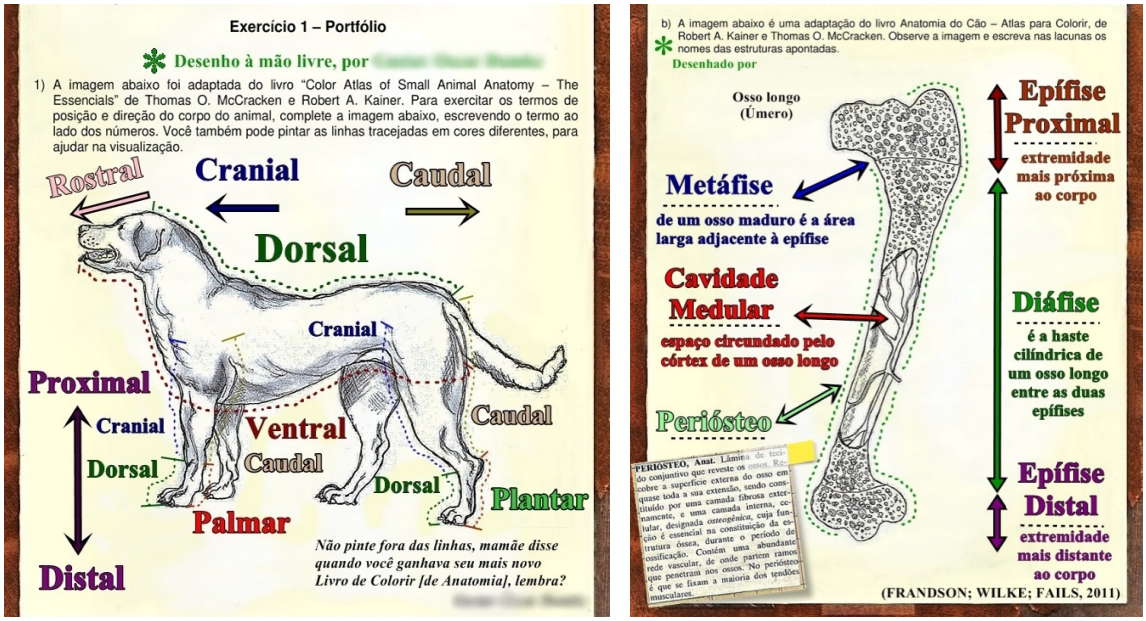
The case reported refers to the development and use of an illustrated academic portfolio as a formative tool in the teaching of Veterinary Anatomy. The course was completed by the student in 2023. Methodologically, this is a descriptive experience report conducted within the context of the Veterinary Anatomy course offered in the Veterinary Medicine program at a federal higher education institution in southern Brazil.

According to the course syllabus, students were required to produce an academic portfolio containing the assignments requested by the instructor, which would be reviewed and corrected throughout the semester. In addition, the portfolio was to be organized in a binder with plastic sheet protectors. During that semester, the Veterinary Anatomy course was also supported by two teaching assistants, one serving on a voluntary basis and the other holding a scholarship.

Based on these guidelines and previous positive experiences with portfolio-based learning, the student independently decided to enhance the portfolio's visual appeal by designing a cover, creating decorative borders, and improving the resolution of the images used in the assigned exercises. As a result, the portfolio gradually acquired a distinctive and visually engaging format throughout the academic semester, incorporating hand-drawn and hand-colored illustrations that were subsequently digitized. The student also included notes and reflective comments on the topics addressed in both theoretical and practical classes.

To accomplish this, the student used the free image-editing software Photoscape® to improve image resolution and add decorative borders (Figure 1). This activity was intended to promote the consolidation of anatomical knowledge, foster student autonomy, and support more meaningful learning by extending the student's engagement with the subject matter.

Figure 1 – Illustration of portfolio pages: initial assigned exercises



Source: Dumke, Peripolli and Gueretz (2023).

Because the student had previously completed a Human Anatomy course in other Health Sciences programs, the subject matter was not entirely new, making it possible to identify several challenges more clearly throughout the experience. Among these, the most notable were the lack of consistency in the time available to complete each assignment and logistical difficulties, including the complexity of intermunicipal commuting, exacerbated by the limited availability of public transportation and incompatible schedules, as well as communication gaps between the teaching assistants and the course instructor.

As this is an experience report based on the student's own participant observation during academic monitoring, involving neither data collection from third parties nor the identification of research participants, the study falls within the categories exempt from submission to a Research

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Ethics Committee (REC), in accordance with Brazilian National Health Council Resolution No. 510/2016 (Brasil, 2016).

Because submission of the portfolio constituted part of the final course grade and replaced the theoretical examinations, students demonstrated greater engagement with the course and developed a more consistent habit of continuous study.

Discussion

The portfolio is one of the most widely used assessment tools for monitoring students' development through contextualized reflection. It is an important pedagogical resource that should be employed to enhance the teaching process by stimulating students' interest, helping them overcome shyness, fears, and external challenges, and strengthening the relationship between instructors and students through the shared construction of knowledge (Almeida *et al*., 2024). Throughout the development of the Veterinary Anatomy portfolio, an increased interest in the subject matter and a deeper engagement with the literature became evident (Dyce; Sack; Wensing, 2010). This theoretical foundation supported the student's visual representation approach, providing greater academic rigor to the methodology adopted and facilitating its understanding and validation by the course instructors within the context of the discipline.

In agreement with Sturtz and Asprea (2012), who argued that incorporating clinical scenarios makes information more engaging and easier to remember, Anatomy should not be viewed as a rigid discipline detached from students' everyday experiences. In introducing the study of Anatomy in their book, the authors explain that their objective was to enable students to apply this knowledge in daily professional practice, whether in clinical settings, hospitals, the field, or research facilities.

When the portfolio is viewed as an educational technology capable of fostering familiarity with the subject matter and influencing veterinary education, it becomes essential to reflect on the need for a balanced, student-centered approach, as emphasized by Garcia, Oliveira, and Almeida Júnior (2024). These authors also highlight the importance of promoting a more dynamic and accessible Veterinary Medicine education that better meets students' learning needs.

On academic tutoring

From the perspective of student-centered education, it becomes evident that the mere availability of technological tools or human support does not, in itself, ensure successful learning, and that such dynamism may be constrained by traditional models of academic supervision. In the context of the academic monitoring examined in this study, the two teaching assistants, despite their professionalism and commitment, played a limited role in the first author's academic development, restricting their participation primarily to formally reviewing and signing off on the portfolio.

It is also important to recognize that the role of the teaching assistant should be regarded as fundamental to the success of students facing learning barriers, serving as an essential institutional strategy for promoting greater inclusivity in higher education (Pinheiro; Bentes, 2025). Initially, academic monitoring sessions were held in the evening, which hindered attendance because of the full-time nature of the program and the geographical barriers faced by the student, who lived in another municipality and relied on public transportation. Consequently, participation in the monitoring sessions became largely compulsory, aimed primarily at obtaining the required portfolio approvals rather than fostering meaningful dialogue or contributing substantially to knowledge construction.

It is important to emphasize that the literature consistently demonstrates the value of academic monitoring, as it contributes to students' education by promoting autonomy and fostering the

development of essential competencies and skills required for academic success (Neves *et al*., 2022). The same authors further argue that academic monitoring encourages students to continuously seek new sources of information, supports the adoption of innovative learning methods, and enhances the retention of course content by assisting the students under their supervision.

According to Souza and Oliveira (2023), teaching assistants are responsible for implementing and evaluating educational activities that facilitate students' teaching-learning process. However, such facilitation was not evident in the experience reported here. Instead, a degree of rigidity and a lack of communication between the course instructor and the teaching assistants were observed. At certain points, conflicting guidance provided by the teaching assistants and the course instructor created a sense of uncertainty regarding the execution of the assigned activities. This lack of consistency in instructional guidance ultimately generated communication gaps that negatively affected the students' workflow.

Outcomes

Due to the difficulty of accessing in-person academic monitoring, whether because of transportation constraints or the scheduled meeting times, the illustrated portfolio assumed a central role in the study of Veterinary Anatomy. Throughout this experience, it was even perceived and described as a "Silent Teaching Assistant," since the academic monitoring provided was largely limited to bureaucratic compliance rather than meaningful learning. In contrast, the process of illustrating the portfolio fostered what the student described as the true "physiology of learning." Thus, the portfolio became the resource that compensated for the absence of effective in-person academic support.

The contribution of illustrations and drawing to the teaching-learning process has been increasingly examined in the scientific literature. According to Costa (2025), drawing serves a mnemonic function, constituting an activity that promotes the memorization and internalization of the meanings and concepts embedded in the illustrations themselves. From this perspective, interdisciplinarity emerges as an educational paradigm that transcends the compartmentalization of the curriculum by fostering the integration of knowledge and supporting the holistic development of learners (Teles *et al*., 2025).

Nevertheless, it is important to reflect on how these methods should be integrated into the teaching of Veterinary Anatomy. Resources such as Artificial Intelligence can provide interactive support and rapid access to reference materials; however, these technological tools should be understood as complementary resources that cannot replace the indispensable role of practical dissection classes and laboratory experience (Choudhary; Saini; Challana, 2023).

On the other hand, feedback is understood as a continuous, dialogic process that goes beyond merely correcting errors, playing a fundamental role in fostering students' self-regulation and critical reflection on their own learning journey (Amaranti Pesce; Contreras Pérez, 2025). However, translating this concept into practice reveals important complexities. In the present case, the first written feedback elicited both positive and negative perceptions. On the positive side, the instructor acknowledged the technical rigor of the sources consulted, which were based on canonical Veterinary Anatomy texts, as well as the maturity of the student's writing, which was developed through the appropriate use of indirect citations.

Conversely, regarding the artistic component of the illustrated portfolio, the instructor's initial feedback indicated that modifying the format of an academic assignment was inappropriate because it could make the evaluation process more difficult. Shortly thereafter, however, the instructor praised the student's creativity. Despite this ambiguity in the written feedback, it is understood that this type of interaction enables students to assume an active role in constructing their own knowledge, ultimately

leading to meaningful improvements in both their academic and professional development (Amaranti Pesce; Contreras Pérez, 2025).

The situations described in this report did not diminish the student's commitment to the course. Instead, they reinforced, from the perspective of the first author, the effectiveness of an active learning methodology based on the creation of an artistic and visually engaging portfolio.

In summary, the experience reported demonstrates that the illustrated portfolio extends far beyond the function of a simple academic record, establishing itself as an essential formative tool in Veterinary Anatomy. As a pedagogical resource, it supports both academic monitoring and the feedback process, providing an important complement to more rigid supervisory models. The analysis further showed that, in the face of logistical barriers and a traditional academic monitoring model, the student found in the creation of illustrations the support necessary to achieve a deeper understanding of animal morphology.

Final considerations

Although the portfolio was not the sole focus of assessment in the Veterinary Anatomy course, as it was evaluated alongside practical examinations, the process of developing it was considered a positive experience by the student, particularly given the complex, comprehensive, and abstract nature of the discipline, whose anatomical structures are often difficult to memorize. It is believed that there is something unique and meaningful about engaging deeply with a subject through curiosity and genuine interest while striving to present ideas in a creative and innovative manner, thereby enriching the teaching-learning process. Furthermore, this portfolio is recommended for institutions whose academic monitoring programs face similar challenges, as well as for students experiencing circumstances comparable to those described in this case report.

Accordingly, the use of this tool is recommended because of its potential to enhance student development, particularly by strengthening student agency and autonomy. It is also emphasized that its implementation should be led by instructors and teaching assistants with experience in teaching-learning processes, ensuring that the initiative does not become merely an ineffective experimental exercise that may be discontinued in subsequent semesters or, in the worst-case scenario, contribute to a negative perception of a discipline that is fundamental to veterinary education. &

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- **Data and material availability**: The data and materials supporting the findings of this study are available upon reasonable request to the authors.
- **Author contributions**: DUMKE, G. O. was responsible for the study conception and design, the practical experience, data recording, and manuscript writing. PERIPOLLI, V. and GUERETZ, J. S. conducted the analysis of the results, performed critical revision of the intellectual content, and approved the final version of the manuscript.

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