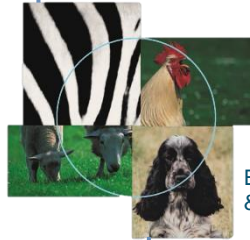


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Peer Assisted Learning in Flipped Classroom Approach in Equine Nutrition: Making it Work

Edlira Muca¹, Federica Raspa¹, Damiano Cavallini², Domenico Bergero¹, Emanuela Valle¹

¹ Department of Veterinary Sciences, University of Turin, Grugliasco, 10095, Italy, ² Department of Veterinary Sciences, University of Bologna, Ozzano dell'Emilia, 40064, Italy; Email: edlira.muca@unito.it

Introduction: Over the last few decades, veterinary education has been pressured to shift towards more innovative, active, flexible, and student-centered teaching/learning strategies aiming to combat the “*one size fits all*” found previously in nearly all universities. The flipped classroom approach (FCA) is a pedagogical model that inverts the traditional learning where the students pre-learn with the instructional provided materials before the class and take part in class activities under the instructor’s supervision [1]. Literature has frequently suggested that the FCA provides teaching that addresses students' different learning styles and meets students interests and needs [2,3]. However, research on the use of FCA in veterinary education is scant and little is known about student’s perceptions and attitudes towards FCA. The aim of the present study was to examine students’ perceptions and attitudes towards FCA in a clinical equine nutrition course.

Materials and Methods: A cross-sectional study was conducted in the Department of Veterinary Sciences of the University of Turin. FCA was based on informative materials, instructional videos in shared folders, and an online meeting room for live discussions. Students first self-studied with their peers with educational materials and instructional videos. Next, they formulated several equine diets, and the successive step was open discussions about diets for specific clinical cases. An online self-reported questionnaire using Likert scale (1-strongly disagree – 5-strongly agree) [4], was administered after students completed the course to measure students’ perceptions of FCA in general, and peer assisted learning as a supplementary tool within the frame of a FCA. JMP16 (SAS Institute Inc., USA) was used for the data analysis.

Results and discussion: A total of 58 fourth year veterinary students completed the questionnaire [76% female, mean age \pm standard deviation (SD) 23.74 \pm 1.90 years old, mean of the previous exams \pm SD 25.78 \pm 1.32 out of a maximum of 30)]. First, only 27.5% of students were interested in equine nutrition, whilst the majority 54.9% indicated that they were not interested and 17.6 % of students were neutral (not interested neither interested). Most of the respondents (77.58%) agreed and strongly agreed with the statement that the FCA was interactive for their learning. 55.9% agreed and strongly agreed with the statement they were satisfied with the FCA. The most highly ranked aspect within the frame of the FCA was collaborating with their peers prior to learning activities. The majority of the students (80.9%) agreed and strongly agreed with this statement (32.7% agreed and 48.2% strongly agreed). It is worth noting that in peer-assisted learning, students are less fearful of making errors in front of their peers instead of teachers and the learning environment is more informal [5]. Another notable aspect was that 82.6% of students (48.2 % agreed and 34.4% strongly agreed) believed that the learning materials provided to the course would be useful for their future veterinary profession.

Conclusion: This study demonstrated mixed perceptions and attitudes of students towards the FCA. Overall, the results of the present study indicate that the FCA fosters the learner-centered environment and collaboration between peers. FCA and peer assisted learning could have excellent potential to complement traditional teacher-led activities as illustrated with this clinical horse nutrition course.

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