

Do community-engaged learning courses benefit the equine student over a traditional laboratory setting?

A. Walters¹, K. Cagle-Holtcamp¹, S. Lee¹, H. Evans³, A. Gilmore¹, L. Irvin², C. Brunson², and M. Nicodemus¹
¹Animal & Dairy Sciences, ²Human Sciences, Mississippi State University; ³Animal Sciences, Iowa State University

Introduction

Vocational training is essential in developing skills and the confidence to perform skills for a profession and this type of training can be achieved through a traditional laboratory setting and through courses centered around community engagement activities.^{1,2,3} While studies have documented the benefits of both types of pedagogical strategies, comparison of these approaches to teaching in the equine environment is limited, and yet, development of skills and confidence is essential in such equine professions as that of the veterinary professional where a lack of skills and confidence can create safety issues for both the professional and the equine. Therefore, the objective of this study was to compare development of college students' confidence levels and skills associated with equines through a traditional equine laboratory setting to that of a community engaged pedagogy.



Students in a traditional equine laboratory

Materials & Methods

The study was conducted over the fall semesters of 2018 and 2019. A survey instrument was given at the beginning (pre-) and end (post-) of each semester for an equine course with a weekly 2 hour traditional equine laboratory (TL) (N=36) and an equine course with a weekly 2 hour equine community engagement activity (CE) (N=47). Students in both courses completed a total of 30 hours handling horses by the end of the semester. The self-reporting survey consisted of 15 questions evaluating the student's confidence in their perceived equine horsemanship skills with students ranking their confidence from 1-5 in performing skill (Max total score=75). A skill assessment was completed by course instructors at the same time as the pre- and post- student self-reporting surveys. The skill assessment consisted of 10 questions with instructors ranking skills from 1-4 (Max total score=40). Total scores for each student for each assessment was determined pre- and post- course, and then, means of these totals were determined for each course. Differences between pre- and post- scores were calculated for each student, and then, means of differences for each course were determined. T-tests were performed to compare means between courses.

References

- Niebuhr, D., & Smith, H. (2004). An integrated laboratory vs. a traditional laboratory: Is there a difference? *Age*, 9, 1.
- Travis, H., & Lord, T. (2004). Traditional and constructivist teaching techniques. *Journal of College Science Teaching*, 34(3), 12.
- Quail, M., Brundage, S. B., Spitalnick, J., Allen, P. J., & Beilby, J. (2016). Student self-reported communication skills, knowledge and confidence across standardized patient, virtual and traditional clinical learning environments. *BMC medical education*, 16(1), 73.
- Moore, C. W., & Allen, J. P. (1996). The effects of volunteering on the young volunteer. *Journal of Primary Prevention*, 17(2), 231-258.
- Wilson, J., & Musick, M. (1999). The effects of volunteering on the volunteer. *Law and contemporary problems*, 62(4), 141-168.

Results

When comparing groups as seen in the table below, while the CE and TL students had similar beginning scores both in skill level and confidence level and in ending scores for skill level, the CE ending confidence scores were significantly higher than that of the TL students ($p < 0.05$) (Table 1).

When comparing beginning and ending scores within groups, a significant difference between pre- and post- scores in the skill level was found for both the CE course ($M = -5.025$, $SD = 5.925$, $p < 0.01$) and the TL course ($M = -6.517$, $SD = 6.168$, $p < 0.01$). There was also a significant difference in the confidence level of the CE students ($M = -17.489$, $SD = 27.953$, $p < 0.01$) by the end of the semester, while there was no significance shown in the confidence of the TL students ($M = 1.083$, $SD = 26.890$, $p = 0.810$) by the end of the semester.



Students volunteering in an equine therapy program for a CE course

Scores	Means	SD
CE Pre-Skill Level	22.8	8.3
CE Post-Skill Level	27.8	7.9
TL Pre-Skill Level	26.3	4.8
TL Post-Skill Level	32.8	5.3
CE Pre-Confidence Level	45.6	26.9
CE Post-Confidence Level	63.1*	23.9
TL Pre-Confidence Level	53.6	23.8
TL Post-Confidence Level	52.5*	27.9

* Indicates significant difference between CE and TL ($p < 0.05$).

Conclusions

As Universities start to look to the future and assess alternative ways to educate students, while still giving them the needed hands-on opportunities to be successful in their chosen career path, University instructors may want to consider not only activities that build knowledge, but also work to build a sense of community within the student such as volunteer activities done through community engagement programs. Volunteering teaches both valuable skills within the student volunteer, but also a feeling of belonging within the community and an understanding of the community around them.^{4, 5} Volunteering, in addition, builds bridges for these students and valuable contacts within the community that traditional laboratory settings are limited in accomplishing. In the end, as seen from the results of this study, while both pedagogical strategies can be beneficial in equine skill development, community-engaged learning courses can provide a more effective approach to improving confidence within our equine students, and that confidence can be a powerful tool in becoming a viable contributor to the industry.