



E109 Group Experiential Learning in the Forensic Science Classroom

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After attending this presentation, attendees will better understand the application of experiential learning in the forensic science classroom.

This presentation will impact the forensic science community by demonstrating the ways in which group experiential learning can be approached within the standard classroom lecture setting.

Collaborative or group experiential learning in higher education is by no means novel. It is (and has been) practiced in various forms and in various disciplines for most of the past century.¹ Group work has been shown to easily excel individual learning in all manners of pedagogy, from problem-solving to verbal skills. The interspersing of small group activities in a standard lecture format is perfectly acceptable and can provide sufficient student value.²

The inspiration for this study of small-groups experiential learning is a course on bone trauma. This course serves both forensic anthropology and forensic science majors. It began as a standard, straight-lecture format (Trial 1). In this iteration, static displays of various bone traumas were (and still are) used to illustrate how various events such as fractures occur. Human bone is too precious to experiment with and bones of the white-tailed deer were shown to be a useful alternative.³ A few excess deer bones were used in class to demonstrate trauma. Student interest in a hands-on application was quite clear. The problem was a lack of sufficient bones for a more in-depth student experimentation. Four years ago, a local source of deer bones acquired from local hunters was established. Beginning that year, students were given a group-based project to simulate a form of bone fracture (Trial 2). Each group was given some degree of latitude in approaching their task. The final projects were, as expected, quite varied in their design and results. The concern was that so much time was spent on the experimental design that the pedagogical goal of the project was lost — understanding how bone responds to trauma. In the next iteration, each student group performed the same experiment and used the same experimental design (Trial 3). It was discovered that, not surprisingly, some groups were better than others at conducting the experiment. Some groups experienced the so-called “Aha!” moments, while others simply performed the experiment as instructed.

All science of teaching and learning, or pedagogical research, is focused on student learning. Within that context, three goals were established for this study of experiential-group learning: (1) connect course content to the real world; (2) reinforce learning through application; and, (3) assist students in making the internal connection of the “how” and “what” with the “why.” This project has placed much of its emphasis on this third goal. If they have mastered this ability, when faced with a new circumstance (the “how” and “what”), this skill set should make it possible for them to reach a conclusion (the “why”). As this course continues to evolve, how to apply experiential-group learning to maximize these goals remains an ongoing process.

Reference(s):

1. Slavin R.E. Synthesis of research on cooperative learning. *Educational Leadership*. 1991:48: 71-82.
2. Persellin D.C. and Daniels M.B. A concise guide to improving student learning: Six evidence-based principles and how to apply them. Sterling: Stylus, 2014.
3. Williams J.A. Fun with Bambi: *Odocoileus virginianus* as an experimental and training medium. *Proceedings of the American Academy of Forensic Sciences*, 50th Annual Scientific Meeting, San Francisco, CA. 1998.

Education, Experiential Learning, Bone Trauma