

Incorporating Experiential Learning Principles into a Methods of Teaching Agricultural Mechanics Course to Develop Pre-service Agriculture Teachers' Classroom Management Competencies

Agricultural mechanics instruction is a foundational tenet of school-based agricultural education programs (Anderson et al., 2011; Burris et al., 2005; Pate, et al., 2012). As agricultural mechanics technology is consistently updating and changing, experience in this content area is a must (Wells et al., 2013). In order to more fully and successfully engage students, pragmatic teaching and learning experiences are required. Thus, agriculture teachers should be prepared to successfully engage students in the content area and actively manage both the classroom and laboratory environments (Phipps et al., 2008).

In order to develop a firmer grasp of appropriate content and pedagogical techniques, hands-on experiential learning is recommended. As experiential learning is a foundational tenet of agricultural education (Roberts, 2006), such principles can also be appropriately used in an agriculture teacher education course to more fully develop classroom management competencies. As early-career teachers often struggle with classroom management (Phipps et al., 2008), perhaps providing additional experience in this area would be useful for pre-service agriculture teachers.

Agricultural education students at Iowa State University are required to successfully complete the Methods of Teaching Agricultural Mechanics course during their pre-service training. This course is designed to provide pre-service teachers with basic agricultural mechanics content knowledge coupled with sound pedagogical strategies. The technical content within this course includes instruction in mechanics laboratory safety, woodworking, welding, electricity, and small engine maintenance and repair. The pedagogical content covered within this course includes laboratory safety rule development, grading rubric development, mechanics laboratory planning, lesson planning, and content delivery strategies. Thus, pre-service teachers are provided a basic background in agricultural mechanics content while learning methods behind developing and implementing agricultural mechanics laboratory procedures and curricula.

How it Works

Students enrolled in the course were required to teach two lessons during the semester that directly pertain to the aforementioned agricultural mechanics content. The first lesson, grounded in basic woodworking, was taught by students in pairs. Each lesson was designed to cover at least 25 minutes of class time with 10 minutes for lesson questioning and critique by peers and the course instructor. The second lesson, small engines mechanics, was taught by students on an individual basis and was designed to span at least 50 minutes of class time with

additional time for questioning and critiquing. During each lesson, course students were asked to simulate an actual secondary agriculture classroom, thereby helping to further simulate the actual teaching experience. As a result of this occurrence, the students often began to respond naturally to the lesson content in ways that would be expected of secondary students (i.e., boredom, disruption, excitement, interest, engagement, etc.).

Based upon students' responses to the lesson, the instructing student(s) were required to react in ways appropriate to a secondary classroom setting. In many instances, student disruptions were relatively minor and quickly corrected with a verbal warning. However, some behavioral issues escalated quickly. In one instance, a student left the work area during a small engines lesson and began to turn on all of the welding machines and ventilators in the facility, creating an excessive amount of noise and significantly diverting the flow of the lesson. Perhaps increased supervision could have prevented such an occurrence. It should be noted that in order to help maintain the fidelity of the classroom environment, the course instructor simply observed and allowed activities to occur organically. The final result of the student disruptions and responses to each instructor and his/her lesson was a deeper understanding of the experience of actively practicing and maintaining effective classroom management, a skill often lacking in early-career agriculture teachers (Phipps et al., 2008).

Implications

The broadest implication of these additional experiential learning exercises in classroom management was students' conceptualizations of the essentialness of effective engagement and classroom management. During a discussion session at the final course meeting, most students reported this to be the single greatest challenge to their teaching lessons during the semester. Most students reported that their experiences will be useful as they prepare to enter into student teaching and, subsequently, their own classrooms. However, some students expressed hesitation at the use of the student disruptions, citing that practicing teaching an often unfamiliar content area (agricultural mechanics) was stressful enough without the added burden of student-related issues. However, as Phipps et al. (2008) indicated, the first year of an agriculture teacher's career is often the most stressful, as learning new content, maintaining effective classroom management, and keeping students engaged is a primary (and in some cases career-changing) challenge that must be overcome if an agriculture teacher is expected to survive in the profession.

Future Plans & Advice to Others

It is expected that the course instructor will continue to implement this experiential learning approach during future offerings of the course. As the course is offered during both the fall and spring semesters, many pre-service teachers have the opportunity to enroll in the course and more fully comprehend a realistic classroom management experience. The authors of this poster recommend that other teacher education courses at Iowa State University adopt this approach. Other institutions should examine the possibility of adding this experiential classroom management exercise into agricultural teacher education program curricula.

Costs

Other than the expected cost of compensating the course instructor, no additional costs were incurred as a result of implementing these classroom management learning exercises.

References

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