Microsoft Suite for Future Agricultural Education Instructors: Weekend Short Course

Kathryn L. Teixeira
Oklahoma State University

Robert Terry Jr.
Oklahoma State University

459 Agricultural Hall
Stillwater, OK 74078
805.264.5204
kathryn.teixeira@okstate.edu

Introduction/Need for Innovation or Idea

The need for in-service for beginning and experienced teachers in computer technologies has been documented in agricultural education literature (DiBenedetto, Willis, & Barrick, 2018; Kotrlik, Redmann, Harrison, & Handley, 2000; Layfield & Dobbins, 2002). "Teachers need and value increased knowledge and skills in the area of information technology" (Kotrlik, Redmann, Harrison, & Handley, 2000, pp. 27-28). Williams, Warner, Flowers, and Croom (2014) surmised school-based agricultural education (SBAE) teachers commonly used computer software programs like Microsoft Word, PowerPoint, and Excel in their planning and instruction. Additionally, Williams et al. discovered nearly 90% of SBAE teachers in their study used Microsoft Word at least 2-3 times per week and more than 75% used PowerPoint at the same frequency. DiBenedetto, Willis, and Barrick (2018) identified computer technology as a needed competency across three decades. There is an opportunity to provide instruction for teachers to gain skills through a focused approach of technology integration in all areas of SBAE.

The purpose of the *Microsoft Suite for Future Agricultural Education Instructors* weekend short course at Oklahoma State University is to develop pre-service teachers' skills in Microsoft Suite programs as it pertains to SBAE instruction. Pre-service teachers enrolled in the course are refreshed on the basics of Microsoft Suite software and learn how to optimally utilize each of the programs to improve program management and classroom instruction.

How It Works

The *Microsoft Suite for Future Agricultural Education Instructors* weekend short course focused on concepts and projects that would directly benefit future SBAE teachers. The one-credit hour course composed of 15 contact hours was held on a Friday evening and the following Saturday. The course was divided into four segments, *Microsoft Excel, Microsoft PowerPoint*, *Microsoft Word,* and *Combined Use,* and included bonus projects in the corresponding Google platforms. Pre-service teachers completed and submitted a total of 15 projects in a digital portfolio.

The sequence of projects allowed pre-service teachers to build upon skill sets mastered in previous projects. For example, pre-service teachers created a banquet script with section breaks, page numbers, and styled headings to feed the automated table of contents. Other projects included creating an Excel database of sponsor names and addresses that were used to feed the mail merge component on a given Word form letter. In addition to Word and PowerPoint projects, pre-service teachers were challenged to create spreadsheets in Excel using basic addition, subtraction, and average functions. They also learned how to separate text to columns and combine text using the concatenate function. All of the projects placed the skills in the context to which the pre-service teachers might use them in their future roles, including managing pre-service teacher lists for FFA conference registration, calculations for average daily gain and projected weights, and creating invoices for pre-service teachers.

Results to Date

Fourteen pre-service teachers enrolled in the course in Fall 2018, and the course is set to run again in Fall 2019. Pre-service teacher feedback was positive, and many asked if the class could be longer or taught as a one-hour per week class to give more time for assignments and allow the instructor to "add more things that we could potentially use in our future careers". Although the course was extremely content heavy and fast paced, the instructor provided step-by-step instructions for each project in a handbook the pre-service teachers were able to take with them upon completion of the course. A modified short course was also presented to the Spring 2019

student teachers during their pre-student teaching seminar. With a shortened time period, only three projects were introduced, but the pre-service teacher handbook was given as a resource.

The course was an excellent opportunity for pre-service teachers to learn how Microsoft Suite could be used more concisely in their future roles as agricultural educators. One pre-service teacher said, "I liked how relevant all of the information was. Things like the tickets and the certificates could be really tedious, but were actually really easy!" Another pre-service teacher shared, "I thought the class was very helpful not just for my future classes but definitely as a teacher. I really liked learning how to use all the different tools within word and excel because I was not very comfortable with excel before this class." A pre-service teacher surmised, "It was a very technical class, which suited a hands-on learner like myself very well… The course completely optimized my productivity using Microsoft Suite."

Future Plans

Classes such as this are necessary in order to continually meet the technology needs of pre-service agricultural education pre-service teachers. Future plans include offering this course regularly for pre-service teachers and the modified short course for student teachers. Also, considering technology encompassed three of the top five highest in-service needs of experienced teachers identified by Layfield and Dobbins (2002), it is also planned to develop an in-service workshop, or series of workshops for teachers currently in the SBAE classroom.

By using a targeted technology approach for in-service teachers, opportunity awaits to provide this class as an in-service for current teachers. The hope is this educational experience will provide an opportunity for pre-service and in-service teachers to: (1) learn skills that directly benefit them in all SBAE areas, and (2) optimize productivity and efficiency with departmental management which can ultimately make them more successful in the classroom.

Costs/Resources Needed

This course could easily be mobile, and taught in any classroom with a projector if each pre-service teacher had access to a laptop computer. The success of this weekend course was in large part to the support of the Oklahoma State University Agricultural Education, Communications and Leadership Department and the availability of a state-of-the-art computer lab. For this class, the first four projects were completed using the departmental computers. This allowed for consistency in programs for the instructor to be able to show where tools were located in the programs used. Additionally, student fees at Oklahoma State University provide for all students to have access to a free download of Microsoft Suite. Once pre-service teachers were comfortable in the Microsoft Suite, they were given the option to use the computers provided or to use their own laptops. Allowing pre-service teachers to use their own laptops proved beneficial after the course was over as the pre-service teachers were familiar with the programs on their own machines.

The handbook developed by the instructor was based off previous experience with the specific projects for the class. Pre-service teachers were required to download or print the course handbook before coming to class, but the handbook could easily be printed ahead of time by the instructor for a minimal print price. The handbook includes step by step instructions for each of the projects, and provides tips and tricks for the different programs, including toolbar button descriptions for each program and a list of useful keyboard shortcuts used across the Microsoft Suite. The handbook has already seen revisions and will continue to be revised to as the computer technology needs of pre-service teachers evolve.

References

DiBenedetto, C. A., Willis, V. C., & Barrick, R. K. (2018). Needs assessment for school-based agricultural education teachers: A review of literature. *Journal of Agricultural Education, 59*(4), 52-71. doi:10.5032.jae.2018.04052

Kotrlik, J. W., Redmann, D. H., Harrison, B. C., & Handley, C. S. (2000). Information technology related professional development needs of Louisiana agriscience teachers. *Journal of Agricultural Education, 41*(1), 18-29. doi:10.5032/jae.2000.01018

Layfield, K. D., & Dobbins, T. R. (2002). Inservice needs and perceived competencies of South Carolina agricultural educators. *Journal of Agricultural Education, 43*(4), 46-55. doi:10.5032/jae.2002.04046

Williams, M. R., Warner, W. J., Flowers, J. L., & Croom, D. B. (2014). Accessibility and usage of technology by North Carolina agriculture teachers. *Journal of Agricultural Education, 55*(4), 191-205. doi:10.5032/jae.2014.04191