

**Adapting the 5E Instructional Method to a Foundational Agricultural Communications
Course**

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Introduction

Undergraduate students have expressed apprehension about writing skills, particularly in agricultural communications courses (Ahrens et al., 2016; Fisher et al., 2017). Similarly, a study by Leggette (2015) revealed that instructors of writing-intensive courses related to social sciences in agriculture noted that students often rushed through writing tasks and did not fully develop written assignments. Despite reporting fear of feedback, students have identified that constructive criticism has been beneficial in developing their communication skills (Fischer et al., 2017). Ahrens et al. (2016) recommended that agricultural communications instructors encourage peer review as a way for students to receive feedback prior to turning in final drafts of assignments. Additionally, students have expressed interest in more public speaking opportunities via an agricultural communications-based public speaking course, and project-based writing assignments, like prepared public speeches, are recommended to increase student learning in writing-intensive coursework (Ahrens et al., 2016; Leggette & Homeyer, 2015). The University of Tennessee sought to address this interest by developing ALEC 240, a foundational agricultural communications course focused on prepared public speaking. However, the implementation of this course brought the challenge of selecting instructional methods that met the needs of the students who chose to enroll.

The Biological Sciences Curriculum Study (BCBS) developed the 5E instructional method by incorporating components of historical and contemporary instructional models related to science instruction and inquiry (Bybee et al., 2006). The five phases, or *Es*, of the 5E instructional model are Engagement, Exploration, Explanation, Elaboration, and Evaluation (Bybee et al., 2006). Each phase requires students to draw upon various skill sets to develop their critical thinking (Bybee et al., 2006). Although the original intent of the 5E model was to encourage inquiry-based instruction in science education, the model has the potential to be adapted into other contexts where it may be beneficial to student achievement.

How It Works

For ALEC 240, the 5E instructional method was adapted into the 5-Step Process for Prepared Public Speaking. The process incorporates four low-stakes informal assessments and one formal assessment. As part of the process, students are required to demonstrate critical thinking skills related to planning, executing, and reflecting on their speech writing and delivery, which aligns with the recommendations of Leggette (2015). Students work through the process on four occasions throughout the semester via prepared speaking projects, a personal introduction speech, a demonstration speech, an informative speech, and a persuasive speech.

The first step of the process consists of students *engaging* with topic ideas for their speech through a Mind Map. Each speech has specific requirements which need to be considered when brainstorming topics. This low-stake informal assessment provides students with feedback on how they can develop their selected topic ideas into a quality speech. Once a completed mind map is submitted, students move to Step two. Step two, the Outline Peer Review, consists of two parts: 1) submitting a draft outline and 2) peer-reviewing the draft outlines of classmates. Students are given an outline template for each speech to help plan listener goals, strategies, activities, and personal public speaking SMART goals. This step encourages students to *explore* their chosen topic through research and peer feedback. To participate in step two, students must submit their draft outline to the group discussion board. Students are tasked with examining peer

outlines for two areas of strength and two areas of improvement for each member of their small group and post to the discussion board. Upon receiving peer feedback, students are challenged to reflect and integrate peer comments into their revised outline. Step three, the Revised Outline, consists of students submitting a final version of their speech outline that *explains* their intentions for the speech focus. The instructor provides feedback and grades revised outlines to ensure students plan and prepare properly for their speech. Step four is the Speech Presentation, during which students verbally *elaborate* on their chosen topic in small groups of approximately a dozen. The small groups are designed to ease nerves, allow instructors to facilitate higher enrollment numbers, and maximize course time. Step five, Reflection, asks students five reflection questions to assist in identifying how they applied course materials to prepare, *evaluate* their speech delivery, and explain areas to improve for the next speech process.

Results to Date and Implications

The impetus for designing the 5-Step Process was the realignment of ALEC 240 to meet general education requirements at the University of Tennessee, which resulted in increased course capacity and added sections. The 5-Step Process was implemented in an asynchronous online format during the Summer 2022 semester. The process has since expanded to serve asynchronous online and synchronous in-person sections, reaching 252 undergraduate students. The organizational process allows for the planning phase to be completed in class (synchronous in-person sections) and serves as a pacing guide for asynchronous online students. A common concern with multiple instructors in sections of a course is a lack of consistency; however, implementing the 5-Step Process grants consistency to all sections and modalities related to formal assessment. Regardless of the modality, the 5-Step Process provides instructors with check-in opportunities to monitor student performance related to course progression. During an evaluation of the instructional methods used in the course, students have offered positive feedback related to the 5-Step design. One student stated, “I think it’s a good layout, especially for...a basic oral communication course.” Other students felt that the format of the 5-Step Process in the learning management system was “really helpful” and “well laid out.”

Future Plans and Advice to Others

The 5-Step Process is being mirrored by ALEC teaching faculty in leadership courses for S.W.O.T analysis, essays, leadership plans, and recruitment plans. The ALEC department plans to formally evaluate the effectiveness of the 5-Step Process as an instructional method in a variety of courses. To ease the implementation of this method, we recommend communicating to students why the process is being used and for course facilitators to consistently use nomenclature associated with the 5E method to describe assignments.

Resources Needed

Applying the 5-Step Process to a course is free if the learning institution provides access to a learning management system that allows the instructor to control students’ pace through modules or locked assignments. However, any instructional technique based on the 5E method requires significant time investments to adequately plan assignments and design the content in the learning management system.

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