

## Progress Report

<b>Title:</b>		<b>Strengthening Communication Skills of Agricultural Students: Using Real-World Examples to Meet Industry Employment Needs</b>	
<b>Sponsoring Agency</b>	NIFA	<b>Project Status</b>	ACTIVE
<b>Funding Source</b>	Non Formula	<b>Reporting Frequency</b>	Annual
<b>Accession No.</b>	1011979	<b>Grants.gov No.</b>	GRANT12150203
		<b>Award No.</b>	2017-70003-26386
<b>Project No.</b>	TEX09682	<b>Proposal No.</b>	2016-07249
<b>Project Start Date</b>	05/01/2017	<b>Project End Date</b>	04/30/2019
<b>Reporting Period Start Date</b>	05/01/2017	<b>Reporting Period End Date</b>	04/30/2018
<b>Submitted By</b>		<b>Date Submitted to NIFA</b>	

**Program Code:** ER**Program Name:** Higher Ed Challenge**Project Director**

Holli Leggette

979-458-2749

hollileggette@tamu.edu

**Recipient Organization**

TEXAS A&amp;M AGRILIFE RESEARCH

2147 TAMU

College Station, TX 778430001

DUNS No. 847205713

**Performing Department**

Agriculture Education

**Co-Project Directors**

Murphrey, Theresa

**Departments**

Ag Leaderhip, Edu, &amp; Comm

**Non-Technical Summary**

Communication is vital to understanding complex agricultural systems and to disseminating agricultural, natural resources, and food sciences information as scientists use communication to transform and create knowledge by making connections between ideas and concepts. An industry's effectiveness depends on its ability to transfer scientific information and its capacity to meet the needs of its stakeholders through effective communication. Without communication, the transfer of information is non-existent and the transformation and creation of knowledge is severely limited. Yet, teaching communication within the agricultural, natural resources, and food sciences can be challenging because of time constraints and instructional imperatives related to course content.

The goal of this project is to prepare workforce ready graduates and enhance undergraduate communications curricula for students and professionals in the agricultural, natural resources, and food sciences industry. The initial audience will be students majoring in agricultural, natural resources, and food sciences at Texas A&M University and Prairie View A&M University. These students will be directly engaged in an innovative approach to learning communication skills using seven context- and content-specific reusable learning modules (RLMs). The RLMs integrate agricultural- and science-based subject matter, communication skills, and technology to provide students with rigorous instructional materials that facilitate a new approach to applying communication skills/techniques, solving complex problems using communication skills, and engaging in learning experiences beyond the classroom. The learner-centered RLMs will be based on Crawford et al.'s (2011) areas of communication: listening effectively; communicating accurately and concisely; communicating orally; communicating pleasantly and professionally; communicating in writing; asking effective questions; and communicating appropriately and professionally using social media. The RLMs provide students with an environment to learn about complex agricultural systems, to apply the communication techniques they learn in lecture, to disseminate agricultural, natural resources, and food sciences information, and to transform knowledge about complex agricultural systems. The curricula will be developed for use in face-to-face, hybrid, and stand-alone delivery modes. The RLMs will use industry-specific examples and incorporate learning opportunities allowing students to reflect and compare their communication techniques with industry expectations. Modules will integrate audio, video, interactions, and text in such a way to engage the learner. To meet the current and continuing educational needs of academic and industry professionals, modules will be packaged for delivery via multiple learning management systems.

This project evaluates the effectiveness of teaching students to apply communication techniques throughout the semester using supplemental content- and context-specific interactive RLMs. Its impact will be measured using student assessments (i.e.,

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formative, summative, and pre/post); faculty feedback; and industry review. If the goal of this project is met, there will be a 50% increase in availability of science-focused communication curricula combining real-world examples with communication in the colleges of agriculture at Texas A&M and Prairie View A&M, an overall increase in students' abilities to apply communication techniques based on 10% higher assignment grades and in-class assessments, and a 100% increase in documentation of how and to what extent students gained communications application techniques because benchmarks are not currently established. Additionally, there will be a 25% increase in delivery of context-specific communication curriculum in colleges of agriculture across the country and a 30% increase in agricultural, natural resources, and food sciences faculty integrating effective communication curriculum into their courses at Texas A&M and Prairie View A&M. Once pilot-tested during this project, the RLMs will be disseminated to academia across the United States, to government agencies, and across agricultural industries via online repositories.

**Accomplishments****Major goals of the project**

The goal is to prepare workforce ready graduates and enhance undergraduate communications curricula for students and professionals in the agricultural, natural resources, and food sciences industry, which aligns with the HEC program goal to enhance the quality of instruction in agricultural, natural resources, and food sciences. Seven RLMs will be developed and delivered by Texas A&M University and Prairie View A&M University to empower and enhance the human capital of agricultural, natural resources, and food sciences. The impact of the project will be measured using the following two target objectives:

1. Strengthen agricultural, natural resources, and food sciences students' abilities to apply communication techniques using real-world examples delivered through seven RLMs that can be used in both academic and continuing education settings, and
2. Improve agricultural, natural resources, and food sciences faculty teaching resources by providing RLMs and instruction on how to integrate these RLMs into existing curricula.

**What was accomplished under these goals?**

The curriculum we have developed is based on four of Crawford, Lang, Fink, Dalton, & Fielitz's (2011) seven areas of communication: asking effective questions; communicating accurately and concisely; communicating orally; and communicating appropriately and professionally using social media. Two modules are developed and available for faculty use in eCampus and Moodle, two modules are in the final development stage and will be available for faculty use during the summer term, and three modules are in the curriculum development stage and will be available for faculty use in the fall term. We have designed and developed each of the reusable learning modules (RLMs) as sharable content object reference model (SCORM) compliant for delivery across multiple course management systems. In addition to the curriculum and RLMs described above, we have created faculty instructions to help faculty easily incorporate the RLMs into existing courses and student assessments with metrics to provide faculty and students with a measurement of success upon completion of the modules.

**What opportunities for training and professional development has the project provided?**

This past year, we have focused on designing, developing, and implementing the communications curriculum and RLMs. In the next reporting period, we will provide the training and professional development for the faculty.

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**How have the results been disseminated to communities of interest?**

We have disseminated the results through peer-reviewed publications, invited presentations, faculty meetings, and student courses.

**What do you plan to do during the next reporting period to accomplish the goals?**

During the next reporting period, we will complete the communications curriculum; complete the RLMs; continue to implement the RLMs in agricultural, natural resources, and food sciences courses; publish peer-reviewed journal articles; continue to develop the module facilitation guides; develop a marketing and dissemination plan; host on-campus workshops; and openly distribute the RLMs.

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**Participants****Actual FTE's for this Reporting Period**

Role	Non-Students or faculty	Students with Staffing Roles			Computed Total by Role
		Undergraduate	Graduate	Post-Doctorate	

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## Actual FTE's for this Reporting Period

Role	Non-Students or faculty	Students with Staffing Roles			Computed Total by Role
		Undergraduate	Graduate	Post-Doctorate	
Scientist	0.3	0	0	0	0.3
Professional	0.2	0	0	0	0.2
Technical	0	0	0	0	0
Administrative	0	0	0	0	0
Other	0	0	0	0	0
Computed Total	0.5	0	0	0	0.5

## Student Count by Classification of Instructional Programs (CIP) Code

{NO DATA ENTERED}

## Target Audience

The target audience this past reporting period included students and faculty at Texas A&M University and Prairie View A&M University. Students were engaged in developing and testing the RLMs. Groups of students, individually and in courses, served as critics during the development process to ensure the RLMs were designed in a way to meet the needs of the end-user. Also, they were involved in using the RLMs as part of animal and plant science courses to test the content, context, and usability of the RLMs. The faculty were also engaged in developing and testing the RLMs. The faculty who serve on the advisory board have been engaged, as needed, to review the curriculum from the perspective of a content expert. Faculty in the animal and plant sciences have also tested the RLMs by using them as an effective way to deliver communication curriculum and meet the requirements of a writing-/communication-intensive course.

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## Products

Type	Status	Year Published	NIFA Support Acknowledged
Other	Accepted	2018	YES

## Citation

Leggette, H., Murphrey, T. P., & Norris, S. (2018). Scientific communication: Using reusable learning modules to enhance communication education in agriculture. [Special supplement: Abstract]. NACTA Journal, 62(1).

Type	Status	Year Published	NIFA Support Acknowledged
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Conference Papers and	Accepted	2018	YES

## Citation

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Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Accepted	2018	YES

**Citation**

Murphrey, T. P., Norris, S., & Leggette, H. R. (2018, May). Employer perspectives of agricultural students' communication skills: Curriculum considerations based on real-world input. Poster presented at the annual meeting of the American Association for Agricultural Education, Charleston, SC.

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2018	YES

**Citation**

Murphrey, T. P., & Leggette, H. R. (2018, April). Technology and communication: Using RLMs to strengthen students' communication skills and meet industry needs. Texas A&M University Transformational Teaching and Learning Conference, College Station, TX.

Type	Status	Year Published	NIFA Support Acknowledged
Conference Papers and	Published	2018	YES

**Citation**

Norris, S., Leggette, H., & Murphrey, T. (2018, March). Self-perceptions of communication skills: Assessing college students' perceptions during their undergraduate experience. Paper presented at the annual Texas A&M University Student Research Week, College Station, TX.

Type	Status	Year Published	NIFA Support Acknowledged
Other	Other	2018	YES

**Citation**

Murphrey, T. P. (2017, September). Using real-world examples to meet industry employment needs. Panelist for the Texas A&M University College of Agriculture and Life Sciences Fall Instructional Technology Symposium, College Station, TX.

Type	Status	Year Published	NIFA Support Acknowledged
Other	Other	2018	YES

**Citation**

Leggette, H. (2017, November). Strengthening communication skills of agricultural students: Using real-world examples to meet industry employment needs. Prairie View A&M University College of Agriculture and Human Sciences Research Seminar Series, Prairie View, TX.

**Other Products**

**Progress Report****Accession No. 1011979****Project No. TEX09682****Product Type**

Educational Aids or Curricula

**Description**

1. Leggette, H. R., Murphrey, T. P., Norris, S., & Richburg, A. (2018). Asking effective questions. Online reusable learning module.

**Product Type**

Educational Aids or Curricula

**Description**

2. Leggette, H. R., Murphrey, T. P., Norris, S., & Richburg, A. (2018). Communicating accurately and concisely. Online reusable learning module.

**Product Type**

Educational Aids or Curricula

**Description**

3. Leggette, H. R., Murphrey, T. P., Norris, S., & Richburg, A. (2018). Communicating orally. Online reusable learning module.

**Product Type**

Educational Aids or Curricula

**Description**

4. Leggette, H. R., Murphrey, T. P., Norris, S., & Richburg, A. (2018). Communicating appropriately and professionally using social media. Online reusable learning module.

**Changes/Problems**

{Nothing to report}