

**Web Development in Agricultural Communications Undergraduate Courses**

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## Introduction

Agricultural communications graduates, professionals, and faculty report students have a low technical ability to execute web design and use web design software (Leal et al., 2020). The literature is mixed regarding the importance of web design skills in the profession (Corder & Irlbeck, 2018; Leal et al., 2020). One of the biggest hurdles in teaching website design and development is that the web is everchanging, making it difficult to manage an up-to-date curriculum (Connolly, 2019). Tucker et al. (2003) described the need to grow agricultural communications as an academic field to prepare skilled students and stated, “To meet these demands, academic programs will need to attract qualified faculty, continue to develop and improve curricula, and build research programs to support teaching and outreach efforts” (p. 24). There is a need to explore how technical skills, including website development, are integrated into agricultural communications curriculum (Leal et al., 2020). The purpose of this study is to explore if and how website development is taught in undergraduate agriculture communications program coursework, guided by two questions: (1) Which programs teach website development courses? and (2) Which stages in the website development process are included in such courses?

## Conceptual Framework

There is no standard website design process (Karmokar et al., 2016), so the website development process detailed by Lynch and Horton (2016) provides a framework to guide this study. “Every significant web project poses unique challenges, but the overall process of developing a complex web site generally follows seven major stages,” (Lynch & Horton, 2016, p. 88) which are: site definition and planning; content inventory; information architecture; site design; site construction; site marketing; and tracking, evaluation and maintenance.

## Methodology

This study utilized quantitative content analysis methods (Krippendorff, 2013) to study the prevalence of the website development process stages defined by Lynch and Horton (2016) within undergraduate agricultural communications courses. As an initial, exploratory study of agricultural communications courses teaching website development, the sample was limited to the top ten agricultural communications programs determined by Miller et al. (2015). Those programs are, in rank order, Texas Tech University, University of Florida, Oklahoma State University, Texas A&M University, Kansas State University, Ohio State University, University of Arkansas, California Polytechnic State University, University of Nebraska-Lincoln, and Purdue University. The research team reviewed each program’s website to identify faculty who may teach website development coursework. Such faculty were sent an email requesting the syllabus for any course in their program that teaches one or more of the website development process stages, which were listed in the email. All programs ( $N = 10$ ) responded to the inquiry.

The research team developed a codebook as a means of providing proper protocols and pertinent information to the coder to designate categories for each unit of analysis, a syllabus (Krippendorff, 2013). To determine the stages of the website development process being taught, category classifications for each stage were added to the codebook with descriptions based on the

definitions of each stage (Lynch & Horton, 2016). During analysis, the entire syllabus was reviewed by comparing the document content to the definitions in the codebook.

## Findings

**RQ1: Which programs teach website development courses?** Of the 10 agricultural communications programs included in the study, seven reported offering a course that includes website development. Course titles are Web Design in Agricultural Sciences & Natural Resources (TTU), Careers in Agricultural Communications and Journalism (KSU), Electronic Communications in Agriculture (UARK), Introduction to Digital Media for Agricultural and Natural Resources (UNL), Advanced Agricultural Communication Technology (OH State), Digital & Online Media (OK State), Web Authoring in Agricultural Communication (TAMU). Three programs do not teach the topic: Cal Poly, University of Florida, and Purdue.

**RQ2: Which steps in the website development process are included in agricultural communications courses?** Analysis of the relevant ( $N = 7$ ) syllabi reveals site design and planning ( $n=4$ ) and site design ( $n = 4$ ) stages are the most prevalent among the courses taught, while content inventory ( $n = 1$ ) is the least prevalent. Table 1 displays the frequencies of each stage across all reviewed courses.

**Table 1**

*Frequency of Website Development Process Stages Present in Courses (N = 7)*

Website Development Process Stage	<i>f</i>	%
Site definition and planning	4	57.1%
Content inventory	1	14.3%
Information architecture	3	42.9%
Site design	4	57.1%
Site construction	3	42.9%
Site marketing	3	42.9%
Tracking, evaluation, and maintenance	3	42.9%

*Note:* A syllabus could be labeled with more than one website development stage.

None of the courses included in analysis teach all stages of the website development process. Of the remaining courses, two include six of the stages, two cover four stages, two include three stages, and one course does not teach to any of the stages in the website development process.

## Conclusions/Recommendations

The findings of this study suggest some stages of the website development process are being taught in some agricultural communications coursework, but not in a complete or wholistic fashion as defined by Lynch and Horton (2016). There is an emphasis on website design in the curriculum. Future research should include a more rigorous review of the need for and inclusion of teaching website development in agricultural communications program curriculum.

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