

Master's Level Agricultural Communications Curriculum: A National Delphi Study

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Abstract

The major purpose of this study was to identify what topics and curricular areas a master's level agricultural communications curriculum should include. Identification of the topic and curricular areas came from industry representatives and university faculty.

A three-round Delphi technique was the principle procedure used to conduct the study with a total of 30 individuals participating in round one. In the first round, the panel identified 23 topics that should be included in a master's level agricultural communications curriculum: (1) Advertising, (2) Electives Pertaining to Major, (3) Emerging Issues and Trends in Agriculture, (4) Emerging Technology, (5) Graphic Design, (6) History and Philosophy, (7) Internship, (8) Legislative Issues, (9) Management, (10) Marketing, (11) Mass Communications, (12) Photography, (13) Professional Seminars, (14) Public Relations, (15) Publications, (16) Research, (17) Risk Communications, (18) Speech Communication, (19) Overview Courses, (20) Thesis, (21) Video and Broadcast, (22) Web Classes, and (23) Writing.

Resulting rounds produced 90 curricular areas within the 23 topic areas that were identified as potential material in a master's curriculum.

Keywords: Delphi, Curriculum, Master's Program, and Agricultural Communications

Introduction

Master's graduates have emerged from programs as more enlightened critical thinkers equipped with enhanced communication and teamwork skills (The Changing Landscape, 2001). Some people in the past have concluded that master's programs are the forgotten middle child of higher academia. "Despite being relegated by some of the educators... (it is)... concluded that master's education in the United States has been a silent success – for degree holders, employers, and society in general" (Conrad, Haworth, & Millar, 1993, p. 315).

A master's level education offers a combination of research and coursework at a higher level than a bachelor's degree. It offers more in-depth knowledge of training, with increased specialization and intensity of instruction. Students at this level become more self-directed and more successful in the branch of knowledge which they wish to learn (www.y-axis.com, 2003). However, not all universities offer all programs at the master's level.

The overwhelming lack of knowledge about agriculture on the part of the general public blended with the development of a business oriented industry in agriculture has produced a great interest and need for universities to include agricultural communications curriculum in the traditional agricultural education programs (Birkenholz & Craven, 1996). Universities offering agricultural programs have long had the traditional classes which offer skills needed in order to sustain land, teach agriculture, and preserve wildlife. However, with the growing technology of our times, communications is a very important skill for new graduates to possess (Bailey-Evans, 1994).

Technology exists all around us, leaving us almost helpless in today's society without it. New communication media have even changed the thoughts and ideas of people pertaining to agricultural fields. Satellite transmissions, video conferencing, the World Wide Web,

videography, digital photography as well as many more, either not mentioned or still in development, are used in the most basic agricultural professions or tasks, most dating back from a century ago. Are university students at the master's level learning all that they can to put them ahead when the time comes for their professional careers? (Bailey-Evans, 1994)

“The aggressive changes in technology indicate a pressing need to examine the curriculum in an effort to make it applicable to students and their future employers” (Bailey-Evans, 1994, p. 1). Technology, changing every day, is harder than ever to keep up with; however, it is the responsibility of higher education to observe and keep pace with the ever-changing technological advances for the preparation and learned skills to produce high quality graduates. This is not a task that can be completed only by observing the processes and methods of the current agricultural communications students, but is a process that will have to refer to those who have already completed and are using this level of coursework. Agricultural communications programs should frequently review the status of their graduates in order to more effectively determine the merit within the existing curriculum (Akers, 2000).

Many studies have shown that there is not one perfect group to survey for this problem. The curriculum revision process should be a collaborative effort between students directly involved with the studies in question, teachers who both teach the skills and administer the curriculum standards, and professionals who use these certain skills (Wrye, 1992).

Therefore, an in-depth assessment of the present curricular offerings is a necessary base for an effective curriculum revision (Larson & Hoilberg, 1987; Sledge et al., 1987; Kroupa & Evans, 1976). If universities are going to provide a degree program to students, faculty members must assess and provide for the needs of every student through the agricultural communications

curriculum and equip them with the knowledge needed to sustain employment upon completion of the requirements of a master's degree.

Purpose and Research Questions

The purpose of this study was to identify the areas of study that should be included in an agricultural communications master's degree program. The study also determined how each identified area of study should be structured instructionally. This information was collected through the input of professionals in the agricultural communications field as well as university faculty. In order to develop the most thorough curriculum, the following questions were developed: (1) Upon completion of the agricultural communications master's program, what skills or competencies should students have to succeed in their chosen agricultural communications field as perceived by industry professionals and agricultural communications professors? (2) What specific courses or topics should be included in an agricultural communications curriculum?

Methodology

To conduct this study, the Delphi technique was used to get the most comprehensive results. This method is used in order to develop a consensus within a group of people on a particular issue without bringing the subjects in personal contact with each other (Akers, 2000). Linstone and Turnoff (1975) stated "the Delphi technique may be characterized as a method for structuring a group so that the process is effective in allowing a group of individualists as a whole, to deal with complex problems" (p. 13).

The panel of experts used in this survey consisted of people that are in some way affiliated with the teaching or profession of agricultural communications. The industry professionals used were executive officers of six agricultural communications-related

professional organizations. The six organizations were: (1) Agricultural Communicators of Tomorrow (ACT), (2) Agricultural Communicators in Education (ACE), (3) American Agricultural Editors' Association (AAEA), (4) Cooperative Communicators Association (CCA), (5) Livestock Publication Council (LPC), and (6) National Association of Farm Broadcasters (NAFB).

The second subgroup consisted of faculty members from major universities across the United States who currently teach agricultural communications either at the undergraduate and/or graduate level. The individuals who were selected and agreed to participate in the study included faculty members from (1) Texas Tech University, (2) Oklahoma State University, (3) Texas A&M University, (4) University of Arizona, (5) Clemson University, (6) University of Arkansas, (7) California Poly University at San Luis Obispo, (8) University of Florida, and (9) Kansas State University.

Each panel member was contacted with an explanation of the purpose of the study. The panel members were given the opportunity to refuse participation. The panel members were given a choice on the delivery method they would like to receive the surveys. All panel members chose electronic email. The two subgroups consisted of 30 people total at the beginning of the study, 15 professionals and 15 faculty members.

From the reviewed literature, an open-ended questionnaire consisting of one question was developed for Round One. The question was validated by a panel of faculty and industry professionals not included in the panel of experts. The instrument was pilot tested using individuals that are part of the target population, but not part of the sample population.

The study participants were asked to list several answers to the question. Frequencies, percentages, and rankings were used to summarize the responses to this round. Three

independent readers completed this technique on the first round responses. The three readers then collapsed similar responses. One hundred percent response was received in this round.

In Round Two, the panel of experts was presented with a Web-based instrument which asked them to do three things: (1) rate the 25 main areas of study that emerged from Round One in terms of appropriateness for a master's in agricultural communications curriculum, and (2) rate the 131 curricular areas that emerged from Round One in terms of appropriateness for a master's in agricultural communications curriculum. The panel was asked to rate each curricular area using a four-point Likert-type scale with 1 = "Strongly Disagree," 2 = "Disagree," 3 = "Agree," and 4 = "Strongly Agree." The scale was used to determine each panel member's level of agreement as to the inclusion of the curricular area or topic in a master's program in agricultural communications. The researchers determined *a priori* those areas receiving 80% level of agreement or higher would be used in a master's program in agricultural communications. In addition to evaluating the 131 curricular areas and 25 main areas the panel members were asked to list additional areas missed in Round One.

The researchers utilized Dillman's Tailored Design Method (2000) to solicit response. Twenty-eight of the panel members responded for a 93% response rate. Two of the industry representatives contacted the researcher and removed themselves from the panel. Frequencies, percentages, and ranks were used to evaluate the second round responses.

Round Three served as the final round for the study. There were no items added on the other section in Round Two, so only the 31 curricular areas that did not receive the 80% level of agreement in round two remained in round three. The 28 remaining panel members responded to round three for a 93% response rate. Frequencies, percentages, and rankings were used to evaluate the third round responses.

Findings

The open-ended question regarding what content should be included in the ideal master's level agricultural communications curriculum produced 121 curricular areas one or more of the panelists agreed should be included at the master's level. Of these areas the researchers found the following 25 main areas of study: (1) Advertising, (2) Education/Teaching, (3) Electives Pertaining to Major, (4) Emerging Issues and Trends in Agriculture, (5) Emerging Technology, (6) Graphic Design, (7) History and Philosophy, (8) Internship, (9) Legislative Issues, (10) Leveling Courses, (11) Management, (12) Marketing, (13) Mass Communications, (14) Photography, (15) Professional Seminars, (16) Public Relations, (17) Publications, (18) Research, (19) Risk Communications, (20) Speech Communication, (21) Overview Courses, (22) Thesis, (23) Video and Broadcast, (24) Web Classes, and (25) Writing.

Twenty-three of the 25 topic areas and 76 of the 121 curricular areas were identified by the panel of experts as necessary in a master's of agricultural communications program. Those topics and curricular areas that met the 80% level of agreement in round two are listed in Table 1.

Table 1
Topic areas and curricular areas that met the 80% level of agreement in round two.

Topic Area	Curricular Area	Round 2 % of Agreement*
Advertising		85.8
	Advertising	85.7
Electives Regarding Major		100.0
Emerging Issues and Trends in Agriculture		95.7
	Biotechnology Issues	92.6
	Environmental Issues	92.6
	Health & Food Safety Issues	92.5
	Rural Issues	88.9
Emerging Technology		95.6
	Technologies of Change	89.3

Table 1 *continued.*

Topic Area	Curricular Area	Round 2 % of Agreement*
Graphic Design		96.1
	Elements of Design	100.0
	Applications (Photoshop, Illustrator, Advanced Design, Desktop Publishing, Quark, PageMaker)	85.2
History/Philosophy		91.3
	Communications Role in Agriculture	96.4
	Agricultural Communications Philosophy	85.8
	Agricultural Communications History	85.7
	Agriculture and the Public	82.2
Internships		82.2
Legislative Issues		93.1
	Communications Related	96.4
	Agriculturally Related	85.7
Management		91.7
	Project Management	100.0
	Media Management	100.0
	Information Management and Evaluation	100.0
	Crisis Management	100.0
	Basic Management	95.7
	Budgeting in Communications	92.9
	Fiscal	92.6
	Issues in Management	85.7
	Personnel Management	83.3
	Managing/Understanding Non-Profit, Commodity and Trade Associations	82.2
	Development Strategies	82.1

Table 1 *continued*

Topic Area	Curricular Area	Round 2 % of Agreement*
Marketing		95.8
	Marketing	100.0
	Social Marketing	85.7
Mass Communications		100.0
	Communications Law	100.0
	Effective Communications Skills	92.3
	Current Issues	92.3
	Public Opinions	88.4
	International Relations/Experience	80.7
Photography		83.4
Professional Seminars		96.2
Public Relations		100.0
	Strategic Communications Planning	100.0
	Advanced Media Campaign	96.2
	Media Relations	96.0
	Public Relations	96.0
	Qualifying/Quantifying Public Relations and Advertising Departments	88.5
	Psychology of Public Relations	88.4
	Campaign Strategies	84.0
Publications		92.0
	Audience Analysis	88.5
	Advanced Publications	92.3
Research		92.0
	Analyzing Statistical Data	96.2
	Media Analysis	92.3
	Research Methods (Qualitative and Quantitative)	92.3

Table1. *continued*

Topic Area	Curricular Area	Round 2 % of Agreement*
	Consumer Attitude Research	88.5
	Evaluation of Communications Programs	88.5
	Agricultural Communications Research	88.4
	Statistics	84.7
	Communications Based Statistics	84.6
Risk Communications		92.0
	Risk Communications	92.3
	Creating a Crisis Communication Plan	84.7
Speech Communications		80.0
	Effective Presentations	88.5
Overview		91.3
	Case Studies in Communications	96.2
	Ethics	96.1
	New Media Theory and Applications	84.6
	Logic	84.5
	Communications Theory	80.8
	Changing Roles of Communications Due to Different Media	80.8
	Diffusion and Innovations of New Technology	80.8
	Multiculturalism	80.7
Thesis		88.5
Video/Broadcast		91.7
	Video Production	92.0
	Digital Editing	92.0
	Writing for Broadcast	88.0

Table 1 *continued*

Topic Area	Curricular Area	Round 2 % of Agreement*
Web Classes		92.0
	Web Management	96.1
	The Internet's Role in Communications	96.0
	Applications for the Web	84.6
Writing		100.0
	Technical Writing	96.2
	Advanced Writing	96.1
	Advanced Reporting	92.3
	Editing	92.3
	Technologies Application to Journalism	84.7
	Print Media	84.6
	Reporting	84.6
	Writing for all Audiences	84.6
	Journalism	80.0

*The percentage of individuals who responded with either 3 (Agree) or 4 (Strongly Agree) combined.

Thirty-one items did not reach the 80% level of agreement in round two. Upon second review the panel of experts identified 14 of curricular areas and 1 topic areas as necessary in a master's of agricultural communications curriculum. The 34 items and their level of agreement in Rounds 2 and 3 are listed in Table 2.

Table 2

Topics and curricular areas that did not meet the 80% agreement and went to round three

Topic Area	Curricular Area	Round 2 % of Agreement	Round 3 % of Agreement
Advertising	Public Management of Advertising	75.0	78.5
Education and Teaching		73.1	66.7
	Teaching Methods	71.4	60.8
	Distance Education	59.2	60.7
	Student Teaching	25.0	25.0
Emerging Technology	GPS in Agricultural Communications	50.0	60.7
History/Philosophy	History of Land Grant Universities	62.9	64.3
Legislative Issues	Overview Courses	75.0	89.3*
Leveling Courses		76.2	73.1
Management	Personal Development Management Financial Analysis	75.0	65.4
	Association Management	75.0	78.6
Marketing	Sales	75.0	78.6
	Promotion of Educational Institutions and Programs	67.8	71.4
Mass Communications Overview	Mass Media Class	73.1	85.1*
	Effective Communications Processes	76.9	96.4*
	Creativity Training	76.9	89.3*
	Leadership	76.9	70.3
	Impact our ability to transmit information worldwide had on communications	73.1	75.0

Table 2 *continued*

Topic Area	Curricular Area	Round 2 % of Agreement	Round 3 % of Agreement
Photography	Digital Photography's Role in Communications	77.0	92.8*
	Photography	76.9	92.9*
Publications	Commercial Printing	76.9	73.0
Research	Research and Academics	73.1	75.0
Speech Communications	Oral Communications	73.1	82.1*
	Audiovisual Material	72.0	82.1*
Video Broadcast	Non-Verbal Communications	69.3	82.1*
	Role of Broadcasting	76.0	92.9*
	Role of Television	73.0	89.3*
	Radio Production	72.0	67.8
Web Classes	Video's Role in communications	69.2	85.7*
	Writing for emerging media	77.0	96.3*
Writing	Writing and developing grants	76.9	82.1*
	Scholarly Writing	73.1	77.7

*The percentage of individuals who responded with either 3 (Agree) or 4 (Strongly Agree) Combined.

Conclusions and Recommendations

Topic areas that have been included are only those with 80% agreement from the panel members. The following topic areas should be used when designing an agricultural communications curriculum. Of these areas the researchers found the following 23 main areas of study: (1) Advertising, (2) Electives Pertaining to Major, (3) Emerging Issues and Trends in Agriculture, (4) Emerging Technology, (5) Graphic Design, (6) History and Philosophy, (7)

Internship, (8) Legislative Issues, (9) Management, (10) Marketing, (11) Mass Communications, (12) Photography, (13) Professional Seminars, (14) Public Relations, (15) Publications, (16) Research, (17) Risk Communications, (18) Speech Communication, (19) Overview Courses, (20) Thesis, (21) Video and Broadcast, (22) Web Classes, and (23) Writing.

Ninety curricular areas were identified as necessary components of a master's of agricultural communications program. Those areas are found in Tables 1 and 2.

The following recommendations were made based on the findings and conclusions of this study.

- Additional studies should be conducted to further review the competencies and to determine if any further changes are needed in the curriculum.
- A feasibility study should be conducted to determine what a university needs, including, but not limited to, faculty and yearly resources, to deliver a master's program effectively and efficiently.
- A study should be conducted to measure the level of agreement of the various segments of the panel such as faculty compared to the industry leaders to understand if the perceived needs of each group correlate with the other segments of panel members.
- A market analysis should be conducted to understand the need of the program, delivery strategy and value to the individuals and organizations related to agricultural communications.
- Other stakeholders of agricultural communications should be surveyed. According to Tyler (1969) this includes future, present, and past students, faculty and staff of universities, community members, and administrative officials.

- A study should be conducted to determine the social and cultural benefits as well as the emotional intelligence benefits of an advanced degree.
- Curriculum at any level should be reviewed and revised every year to keep up with current changes of technology.
- The concept of curriculum centers should be explored. The center could focus on news reporting, feature reporting, and news management and include intensive training in reporting, writing and editing, while developing speed, clarity and accuracy.
- Based on this study, the researchers suggests that the following courses could be taught in an agricultural communications master's curriculum:
 - Advanced Methods in Agricultural Communications (3)–Students will learn about the latest research and principles in agricultural communications covering aspects of advertising, communications law, effective communications skills, current issues and trends in communications, consumer research, mass media technologies, and international relations.
 - Advanced Writing Techniques (3)–Students will work on the development of their own authentic writing voices focusing on the skills behind powerful reporting and writing and effective editing. Practical approaches and successful methods used by communicators and journalists will be the basis for the course with special emphasis on voice, storytelling, deadline writing, ethical decision-making, and covering diverse communities.
 - Contemporary Issues in Agricultural Communications (3)–Students will learn and discuss the agriculture and communication industry trends and issues that are having an impact on the agricultural communications profession.

- Data Analysis (3)–This course will focus on the proper use of common quantitative and qualitative data analysis techniques and the interpretation of the research results.
- Electives Regarding Major (0-3)–Students may complete up to three hours in any college on topics relating to their specialization in agricultural communications.
- Electronic Information Dissemination (3)–Students will learn about emerging technology and technologies of change. They will also learn about Web design theory and application including Web management, the Internet’s role in communications, audiovisual materials, writing for emerging media, and applications for the Web.
- History, Philosophy and Policy of Agricultural Communications (3)–This course includes an overview of the theory of communications, the role of agricultural communications in the agriculture industry, agricultural communication history and philosophy, agriculture and the public and legislative issues dealing with communications and agriculture.
- Internship/Practicum (3)–Students are offered the opportunity to become highly proficient in areas of sub-specialization within the agricultural communications profession. Students will be expected to complete a final project and presentation as well as attend 12 hours of professional seminars.
- Marketing and Public Relations (3)–Course includes the theory and applications used in marketing and public relations efforts including social marketing, media relations, qualifying/quantifying public relations and advertising departments, psychology of public relations, and campaign strategies.

- Print Based Media Production (3)–Students will determine what the world of magazine readers needs, and they will deliver it. Students will assume staff positions – research, advertising, circulation, design, publishing, online, technology, promotions and, of course, editorial – and build the publication from the ground up. The result is not just a prototype but also a whole entrepreneurial package, including budget and circulation projections, an advertising campaign and a five-year business plan.
- Project and Media Management (3)–Dramatic changes in technology and the media’s role in converging technologies requires new management and leadership techniques. Students will study the theory, tools and techniques being used to manage successfully in today’s complex agricultural communications profession.
- Research Methods–Emphasis on understanding common quantitative and qualitative research methods and tools.
- Risk and Crisis Communications (3)–Students learn about the latest research and principles of crisis communications, risk communications, communications strategies, crisis management, and evaluating overall campaign effectiveness.
- Seminars (2)–Problems, issues and approaches to agricultural communications in selected topic areas. Specific content will vary but could include consumer attitude research and evaluation, writing and developing grants, managing and understanding non-profit organizations, and commodity and trade associations.
- Statistics (3)–Emphasis on analysis of research data utilizing descriptive and inferential statistical techniques.

- Thesis (6)–Hours to complete a thesis. If the non-thesis option is chosen, the student must substitute 6 hours to replace the thesis.
- Video Based Media Production (3) – Students will gain the practical, creative, and communication skills necessary for delivering messages and communication tasks with video in corporate, governmental, and organizational settings.
- Based on the previous courses, two 36-hour curricula should be used as a potential agricultural communications master’s program. The two options are thesis and non-thesis (Table 3 and 4).

Table 3.

Developed curriculum plans from results of study thesis option

THESIS OPTION	HOURS
Agricultural Communications Core	11
Research Methods	3
History, Philosophy & Policy of Agricultural Communications	3
Seminar (2 semesters)	2
Statistics	3
Thesis	6
Agricultural Communications Courses (Choose from the Following)	16-19
Advanced Methods in Agricultural Communications	3
Advanced Writing Techniques	3
Data Analysis	3
Contemporary Issues in Agricultural Communications	3
Electronic Information Dissemination	3
Marketing and Public Relations	3
Print Based Media Production	3
Project and Media Management	3
Risk and Crisis Communication	3
Video Based Media Production	3
Electives	0-3
TOTAL HOURS	36

Table 4.

Developed curriculum plans from results of study non-thesis option

NON-THESIS OPTION	HOURS
Agricultural Communications Core	11
Research Methods	3
History, Philosophy & Policy of Agricultural Communications	3
Seminar (2 semesters)	2
Statistics	3
Practicum or Internship	3-6
Agricultural Communications Courses (Choose from the Following)	16-19
Advanced Methods in Agricultural Communications	3
Advanced Writing Techniques	3
Data Analysis	3
Contemporary Issues in Agricultural Communications	3
Electronic Information Dissemination	3
Marketing and Public Relations	3
Print Based Media Production	3
Project and Media Management	3
Risk and Crisis Communication	3
Video Based Media Production	3
Electives	0-6
TOTAL HOURS	36

REFERENCES

- Akers, C.W. (2000). *High school agricultural communications competencies: A national Delphi study*. Unpublished doctoral dissertation, Texas Tech University, Lubbock.
- Bailey-Evans, F. (1994). *Enhancing the agricultural communications curriculum: A national Delphi study*. Unpublished master's thesis, Texas Tech University, Lubbock.
- Birkenholz, R.J. & Craven, J. (1996). Agricultural communications – bridging the gap. *The Agricultural Education Magazine*, 68 (Suppl. 5), 10-11.
- The changing landscape of master's education: implications for Penn State. (2001). Retrieved February 11, 2003, from <http://www.gradsch.psu.edu/gradinit/pennstatetalk.pdf>
- Conrad, C., Haworth, J., Millar, S. (1993). *A silent success: Master's education in the United States*. Baltimore: The Johns Hopkins University Press.
- Dillman, D.A. (2000). *Mail and internet surveys: The tailored design method* (2nd ed.). New York, NY: Wiley & Sons.

Kroupa, E. & Evans, J. (1976). Characteristics and course recommendations of agricultural communicators: An update. *ACE Quarterly*, January-March 1976.

Larson, K.L., & Hoilberg, E.O. (1987). Current curricular designs: Strengths and weaknesses. E. Porath (Ed.), *Curricular Innovations for 2005: Planning for the Future of our Food and Agricultural Sciences*. Madison, WI: United States Department of Agriculture, North Central Region Curricular Committee.

Linstone, H.A., & Turoff, M. (1975). *The Delphi method: Techniques and applications*. Reading, MA: Addison-Wesley.

Sledge, G.W., Darrow, E.E., Ellington, E.F., Erpelding, L.H., Hartung, T.E., & Riesch, K.W. (1987). Futuristic curricular models/designs for the food and agricultural sciences. In E. Porath (Ed.), *Curricular Innovations for 2005: Planning for the future of our food and agricultural sciences*. Madison, WI: United States Department of Agriculture, North Central Region Curricular Committee.

Wrye, C.L. (1992). *Occupational status and educational needs of the College of Agricultural Sciences graduates of Texas Tech University*. Unpublished master's thesis, Texas Tech University, Lubbock, TX.

<http://www.y-axis.com/studyoverseas/usguide/gradedu.shtml>