COMPETENCIES NEEDED BY UNIVERSITY GRADUATES OF AGRICULTURAL COMMUNICATIONS IN THE REPUBLIC OF MALI, WEST AFRICA

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CHAPTER I

INTRODUCTION

Background and Setting

Mali is a landlocked country in West Africa, bordered by Senegal, Guinea, Cote d'Ivoire, Mauritania, Niger, Burkina Faso, and Algeria. According to the Encyclopedia of the Nations (2011), agriculture is the backbone of Mali's economy. The Food and Agriculture Organization (FAO) (2011) reported that Mali remains one of the poorest countries in the world and continues to slide into deeper poverty.

However, since 1992, the country has made several administrative, political, and economical advances. At the political level, Mali changed from a dictatorial military regime to a successful democracy. Mali is undergoing a significant economic reform currently, which has started to show progress in terms of economic growth. Reforms in agriculture, food security, environment, and education are ongoing (USAID, 2003).

Qualified human capital and effective institutions are crucial for achieving economic growth (USAID, 2003). Ouedraogo (2008) stated many Malian farmers are illiterate and need information and communication to organize themselves, manage their production operations, and understand crops trade better.

In spite of the important role of agriculture in the economy, Mali does not have an agricultural communications program in higher education. According to Ouedraogo (2008), the lack of training of agricultural communicators in Mali results not only in the

poor quality of service of media outlets but also in the lack of innovation in media programs.

> For examples at the level of radios, agricultural programs are static in their thematic, and rarely focus on the main innovations made in the area of agricultural production. There is also a lack of collaboration between the media and government agencies. For example, the potential research beneficiaries ignore the research findings. (Ouedraogo, 2008, p.10)

In this study, the researcher determined competencies necessary for future university graduates in agricultural communications in Mali in comparison to the exiting agricultural communications programs in the United States of America. The identified competencies will be used to develop a curriculum to prepare and train agricultural communications professionals in Mali.

The first agricultural communications programs in the United States started in the early to mid 19th century as a means to share important farm and home information with remote rural audiences (Boone, Meinsenbach, & Tucker, 2000). Agricultural communicators contributed to improve agricultural practices by disseminating information related to food, agriculture, and environmental systems (Boone et al., 2000).

Agunga (1993) defined six majors roles that communicators have to play in the developing world: advising governments on communication policy; assisting project managers in designing and implementing communication strategies; mobilizing and training community groups and individuals for participatory decision-making; training field extension workers in communication skills; promoting coordination and linkages

among development agencies (networking); and production of multimedia and audiovisual aids.

Planners of agricultural schools in higher education in Mali need to develop a curriculum appropriate for agricultural communications that not only meets the needs but also offers job opportunities to graduates (Ouedraogo, 2008). Sprecker and Rudd (1997) wrote that examination of the competencies, which are needed by professional agricultural communicators, would help planners design curricula that enable graduates to be more competitive in the market place. According to Reid (1999), when initiating a new curriculum, educators should answer two sets of questions. The first should be about what students should learn. The second should be about how decisions on a particular program should be developed and delivered. This study sought to address Reid's (1999) contention.

Statement of the Problem

The economy of Mali relies on agriculture essentially (Ministry of Agriculture, 2009). Agriculture involves more than 75% of the active population, and represents 45% of the Gross Domestic Product (GDP) and 30% of the country's exportation (Ministry of Agriculture, 2009). The government of Mali is committed to turn the country into an agricultural power through the agricultural guideline law (loi d'orientation agricole), passed by the parliament in 2006. This ambitious program requires the training of communicators to convey the vision and the changes needed to move from subsistence agriculture to sustainable agriculture. USAID (2003) indicated in a study about Mali's long-term training and capacity building needs that,

> Agricultural sector development can only occur when an important number of trained personnel are available to undertake research, address issues affecting the agricultural and rural development sector, provide new and appropriate technologies and break new ground for future economic growth. New and innovative programs must be developed and commitments established to increase the human and institutional capacities of Mali's growing agriculture sector. (p. viii)

However, a study has not been conducted previously to determine the competencies needed in agricultural communications or journalism by university graduates in Mali and how these competencies could be integrated into an agricultural communications/journalism curriculum.

Purpose of the Study

The purpose of this study was to determine the competencies needed by university graduates of agricultural communications in the Republic of Mali perceived as important by media professionals. Further, the study determined the frequency of use of these competencies by Malian media professionals in their daily activities. From the information derived, a curriculum may be developed to lead the way to the creation of an agricultural communications program for the Republic of Mali to serve the agricultural industry and the country's citizens.

Research Objectives

1. Describe the personal and professional characteristics of media professionals in Mali.

2. Determine competencies needed by university graduates of agricultural communications in the republic of Mali.
3. Develop the conceptual foundation for an agricultural communications curriculum for universities in Mali.

Significance of the Study

The study will help to identify competencies needed by future agricultural communicators in Mali. By using the findings of the study, higher education curriculum planners in Mali will be able to develop a curriculum to prepare and train future agricultural communicators to educate, inform, and entertain Mali's farmers.

Scope, Limitations, and Assumptions

To conduct the study, the following limitations were encountered:

1. The study participants may have limited knowledge of agricultural communications.
2. The number of study participants was small due to poor access to the Internet in Mali.
3. People in Mali use paper-based surveys; online surveys are a new phenomenon in Mali.
4. This study could be affected by sources of error such as coverage error, sampling error, nonresponse error, and measurement error. Sources of error apply to web surveys (Dilman & Bowker, 2000).
5. The snowball sampling could also eliminate the possibility of identifying individuals who did not return the survey, and those responding may not be representative of the population the researcher sought to study (Creswell, 2008).

6. A pilot test was not conducted because of time constraints.

The following assumptions were made during this research:

1. Participants in this study could generate relevant information on competencies needed by university graduates in agricultural communications in Mali.
2. The responses of the study participants reflect honest expressions of their opinions.

Definitions and Terms

Agricultural communications – possessing the skills to communicate agricultural messages effectively to the publics involved and not involved with agriculture. It involves a variety of communication specializations, such as journalism, advertizing, and public relations (Bailey & Evans, 1995).

Communicator – someone who is able to express their ideas or feelings clearly to other people (Longman Dictionary of Contemporary English, 2003).

Competency – identifiable skills or abilities necessary for successful performance, including general skills and specific tasks, in an occupation a student might seek after the completion of an agricultural communications course. They should include general skills and specific tasks concerning their employments or occupations (Akers, 2000).

Curriculum (plural curricula) – the contents of a particular subject, concepts, and tasks to be acquired; planned activities; the desired learning outcomes and experiences; elements of culture; and an agenda to reform society (Schubert, 1987).

Journalism – "Journalism is an invention or a form of expression used to report or comment in the public media on the events and ideas of the here and now. There are at least five elements in such a definition: (1) a form of expression that is an invention; (2)

reports of ideas and events; (3) comments on them; (4) the public circulation of them; and (5) the here and now" (Adam, 1993, p.11).

Media Organizations' leaders in Mali – the press in Mali is organized under different organizations, i.e., Organization of Private Press Editors, Union of Free Television and Radio Station, Organization of Young Reporters, and many others – all of these organizations have an executive board. These individuals are known as media organizations leaders (Ouedraogo, 2008).

Skill – an ability to do something well, especially something that needs special ability or training (Longman Dictionary of Contemporary English, 2003).

Subsistence agriculture – farming that provides enough food for the famer and his/her family to live on, but not enough for them to sell (Cambridge Dictionaries Online, 2011)

Sustainable agriculture – is an integrated system of plant and animal production practices having a site-specific application that, in the long term, satisfies human food and fiber needs; enhances environmental quality and natural resources; makes the most efficient use of nonrenewable resources and on-farm resources; sustains the economic viability of farm operation; and enhances the quality of life for farmers and society as a whole (Gold, 2007).

University degrees in Mali – after secondary education, the students in Mali enter the university system. After completing their two-year university education, they earn the "DEUG," equivalent to the U.S. Associate degree. They earn the "Licence" the third year of university education. At the end of the fourth year of university education, they earn the "Maitrise," which is the equivalent to the U.S. bachelor degree (Mariko, 2009).

CHAPTER II

REVIEW OF LITERATURE

This chapter is a review of the literature developed in the area of agricultural communications. It is composed of seven sections and a summary: conceptual/theoretical framework, background history of agricultural communications, competencies needed by agricultural communicators and agricultural communications curriculum, mass media and journalism in Mali, higher education in Mali, agriculture in Mali, and summary of the chapter.

Conceptual/Theoretical Framework

A theoretical or conceptual framework supports, explains, or predicts assumptions or phenomena (Argyris & Schon, 1974; Doolittle & Camp, 2001; Sinclair, 2007). This study was based conceptually on the Human Capital Theory (HCT). Samson (2001) defined HCT as an investment in people. For van Loo and Rocco (2004) stated "is an . . . investment in skills and knowledge" (p. 99). This investment is used to build knowledge and skills of employees in hope of increasing workers' productivity (van Loo & Rocco, 2004). HCT proponents argue that education and training are the most valuable investments in human capital (Becker, 1993; Cornachione & Daugherty, 2008). "Human resource development is the process of increasing the knowledge, the skills, and the capacities of all the people in a society (as cited in Cornachione & Daugherty, 2008, p. 17). Smith (2010) posited that it is important to assist individuals in acquiring skills that

are “sector specific, i.e., sector-specific human capital” (p. 42) for preparing people for specific jobs. Swanson and King (1991) asserted that education enables an enlightened citizenry to participate in democratic and legal due processes and to pursue values such as equality, fraternity, and liberty at both private and social levels (as cited in Sweetland, 1996).

The foundation of HCT can be traced not only to Friedman’s neoclassic ideas but also to the influential Chicago-School approach to economics (Cornachione & Daugherty, 2008). HCT has two principles: the nature of the education input of society is both qualitative and quantitative, and the development of abilities and skills require resources (Cornachione & Daugherty, 2008; Sweetland, 1996). Performance, productivity, and quality service are derived from the invested resources (Sweetland, 1996).

Schultz (1961) wrote, “although it is obvious that people acquire useful skills and knowledge, it is not so obvious that these skills and knowledge are a form of capital, or that this capital is in substantial part a product of deliberate investment” (as cited in Zula & Chermack, 2007). Schultz asserted the prime relationship between education and human capital formation and indicated five major categories of human capital investments, i.e., “health facilities and services; on the job training; formally organized education; study programs for adults; and migration of individuals and families (as cited in Sweetland, 1996, p. 348-349). Sweetland (1996) indicated that human capital studies can be divided among three major methodological approaches, i.e., the production function approach, the measurement of return approach, and the aggregate accounting

approach. Cornachione and Daugherty (2008) asserted that human capital theorists have correlated occupational revenues with investments in education.

Human capital theory underpinned this study because it advocates for educational investments and encourages development of talents, abilities and skills for the benefit of the society. Sweetland (1996) posited that, "education entails economic costs, and it provides individuals and society with benefits that are difficult to measure with economic certainty" (p. 356). As such, investing in agricultural communications programs in Mali will contribute to empowering local communities by informing and educating them about agricultural issues through its graduates. Further, Sweetland (1996) concluded that, "pursuit of education leads to individual and national economic growth" (p. 356). Higher education can improve human capital by enhancing the skills of its graduates (Knight & Yorke, 2003). Further, van Loo and Rocco (2004) concluded that, "in early human capital literature, educational background was considered one of the most important determinants human capital" (p. 99). With a complete understanding of the foundations of HCT, educators and policy makers can develop relevant human capital studies from various disciplines and specialization to address public concerns (Sweeland, 1996).

Reid (1999) found that curriculum development requires initially answering two questions: What do students need to learn? How are decisions made and implemented regarding a program?

> The curriculum development literature reviewed indicates that research emphasized (a) the identification of content common to clusters of occupations and all kinds of work, (b) the development of curriculum for students with special needs, (c) the adaptation of curriculum to changes in educational approaches and

> technology, (d) the identification of curriculum changes required by technological developments, and (e) attention to occupational areas that were previously overlooked or considered unworthy, (Phipps & Evans, 1968. p. 377)

"Need focusing" is an assessment of the needs of the learner and may lead to investigations on how outside factors, such as local population characteristics, affect the program (Frey, 2004). "An assessment of needs" is conducted to sharpen the focus in terms of the target – the learner" (Wiles & Bondi, 1993, p. 77). The first step is to decide what type of data to collect. The second step is to determine how to collect it. Data collection may require the use of community members, educators, and the industry (Frey, 2004).

Erven (1987) argued that employers could help in curriculum development by sharing their perceptions of the society where graduates will work and can provide information about the skills graduates need to serve in the future. Similarly, Meyers (2005) found that identifying an appropriate combination of state and community-based curriculum needs is a challenging part of curriculum development. Individuals with knowledge in the field of agriculture possess the abilities and skills needed to communicate information about agriculture to others. Subsequently, academic programs in agricultural communications began in the agricultural colleges in the U.S. (Terry, Vaughn, Vernon, Bailey-Evans, & Rehrman, 1994).

Background History of Agricultural Communications

In the U.S, farmers used to get information by word of mouth before the advent of agricultural communications in the early to mid–19th century (Boone, Meisenback, &Tucker, 2000). Boone et al. (2000) wrote that the first publications on agriculture that

appeared in the U.S. originated from Europe. The first American periodical, titled, The Agricultural Museum, was published in 1811 (Boone et al., 2000). The U.S. Congress published the first agriculture-related information in 1828 (Boone et al., 2000).

Tucker, Whaley, and Cano (2003) asserted that the early professionals who pioneered agricultural communications were not only outspoken leaders within the new profession but were also national leaders of agriculture. Burnett and Tucker (1990) indicated that in the 1900s the agricultural communications craft had evolved into a highly competitive industry requiring the knowledge of business and journalism skills as well as farming. In 1983, Kearl stated that agricultural communications had been a professional field in the United States for about 100 years.

In addition, early agricultural communicators worked to change the stereotyped image of agriculture using public relations (Kearl, 1983). In spite of the growing changes in communications methods through word of mouth, courses in agricultural communications were not offered before the early 1900s (Buck & Paulson, 1995). Agricultural communications developed when scientists needed help responding to questions and information requests (Kearl, 1983).

Duncan (1957) stated that the first courses of agricultural communications were offered at Iowa State University. Agricultural communications courses were also offered by newly opened schools of journalism, which employed journalists from the private media sector (Tucker et al., 2003). Reisner (1990) and Weckman, Withan, and Telg (2000) claimed that for more than a century, agricultural communications programs have continued to train professionals for communications and journalism careers, and agricultural education departments host these programs typically.

Agricultural communications programs continue to attract a relatively small but steady number of students interested in this field (Cooper & Bowen, 1989; Deorfert & Cepica, 1991; Wargo, 1993). Moreover, Evans and Bolick (1982) noted that in the early 1980s, most agricultural journalism and communications programs were less than 20 years old. Reisner (1990) indicated that 1,988 undergraduate degrees in agricultural journalism and agricultural communications were offered at 26 universities across the U.S.

Doerfert and Cepica (1991) found that more than 30 agricultural communications programs existed across the United States. Reisner (1990) indicated that 629 students were pursuing agricultural communications as a major field of study at the time of his inquiry. Terry et al. (1995) found that agricultural communications programs were preparing students for their future careers.

The agricultural communications programs have different names in U.S. universities; some are named agricultural communications and others are called agricultural journalism. Boone et al. (2000) concluded that the departments created before 1970 were named agricultural journalism, whereas those established after 1970 were called agricultural communications.

Buck and Barrick (1995) stated that, the general public has less contact with agriculture on farms and much public dialogue exists about issues related to agriculture, such as food prices, healthy food, land use, water use, animal rights, and pollution.

Competencies Needed by Agricultural Communicators

Mass media and other "non formal" methods of dissemination are valuable sources of information about many subjects, including agriculture (Terry & Bailey-

Evans, 1995). Buck and Kirby (1995) stated that the responsibilities of an agricultural communicator are complex, and they vary according to the type of employment, the educational preparation of the individual, and the range of his or her experiences and special interests. An agricultural communicator's responsibility is to determine what information regarding agriculture is needed by various audiences, and develop means to convey that information effectively (Agunga, 1989; Singh, 1976; Teller, 1980).

Terry and Bailey-Evans (1995) asserted that agricultural communicators were instrumental in providing education about agriculture. A great demand exists for people with knowledge in agriculture and who possess skills and abilities to convey information about it to others (Terry & Bailey-Evans, 1995). Several studies involving students, graduates, faculty, and industry professionals have been conducted to review agricultural communications curriculum over the past 35 years and help identify the skills, competencies, and objectives that should be included to prepare properly agricultural communications students for successful careers (Bailey-Evans, Kroupa, & Evans, 1973; Sprecker & Rudd 1997; Terry, Lockaby, & Bailey-Evans, 1995; Terry et al., 1994). Sprecker and Rudd (1997) found that examination of the competencies needed by agricultural communicators would allow planners to design curricula that train graduates to be more competitive in the job market. Curriculum for agricultural communications programs is developed to help graduates qualify for a wide range of job opportunities available in the career field (Evans & Bolick, 1982).

Diamond (1989) stated that curriculum planning should involve all actors related to the phenomenon. Sprecker and Rudd (1997) wrote that competencies needed by agricultural communicators have changed with technology and job requirements;

therefore, a need exists to examine the curriculum to make it applicable to students and their future employers.

Agricultural communications educators should develop the curriculum to prepare their students for agricultural communications careers. However, this initiative appears to be complex in the 21st century because the profession is becoming sophisticated (Tucker et al., 2003). Sprecker and Rudd (1997) wrote that the agricultural communications curriculum should allow students to get to know people in the industry.

Duncan (1957) conducted the first research on agricultural communications curriculum. He investigated agricultural journalists regarding their recommendations for agricultural communications curriculum. The participants ranked news writing first in their list of important journalism coursework that should be included in the program. Thereafter, Terry et al. (1994) argued that agricultural communications coursework should comprise 28 units, consisting of 89 specific concepts. Common agreement was made regarding grammar, communicating agriculture to the public, geography, speech writing, oral communication, scripting writing, layout and design, campaign planning, news writing, reporting, ethics, editing, problem solving, internship, geography, agricultural policy, government policy, history of American agriculture, word processing, and creative strategies (Terry et al, 1994).

According to Reisner (1990) agricultural communications courses require mostly writing skills, photography, and communications law. In one study, agricultural communications graduates perceived that the five most important courses for agricultural communications students were agricultural communications, agricultural economics, animal science, food science, and natural resources (Cooper & Bowen, 1989). Morgan

(2008) indicated that agricultural communications graduates need to understand audiences, identify the desired outcome from communication, develop a plan for desired outcomes, edit, get words down on paper, organize thoughts, use proper grammar, and use proper strategic writing style. Morgan (2008) argued that the coursework must be followed by updating students on new technologies and also by offering them internship opportunities for applying and honing skills learned in the classroom. Agricultural communications students also need a strong work ethic (Morgan, 2008).

Agricultural communications programs have been part of higher education in the United States for more than 100 years, and several studies inquiring about different actors related to the field have been conducted. Because many changes have been made in agricultural communications programs and more will occur due to new technologies (Bailey-Evans, 1994; Duncan, 1957), research focused on how to improve programs and the curriculum for current and future students is needed. Morgan (2008) noted that several studies were conducted at the collegiate and professional organizations level to determine curriculum content for agricultural communications studies. Morgan (2008) indicated that during the past 35 years several studies have reviewed agricultural communications curriculum.

Sprecker and Rudd (2003) noted that the impact of agricultural communications professional organizations on the curricula would help programs mirror the needs of industry. However, the professionals have some limitations according to Tucker et al. (2003). Vocational curriculum developers and evaluators should consider the competencies required by employers currently and in the future (Finch & Crunkilton, 1999). Osborne (2007, p. 11) asked, "what are the skills, competences, and resources

necessary to prepare professional agricultural communicators for success in various aspects of agricultural knowledge management?" Agricultural communications programs must provide students with curriculum that prepares them for careers. To reach this goal, curriculum must be reviewed periodically by seeking input from students, instructors, graduates, and professionals (Doerfert & Miller, 2006).

In developing a curriculum, it is important to identify the possible stakeholders who need to be involved. Taylor (1999) stated that a curriculum should be a dynamic instrument that has the educational objectives. These objectives are to be attained and the educational experiences that can be provided to achieve them. Sprecker and Rudd (1998) stated that curriculum represents the backbone of any academic unit. "A school without a quality curriculum is like a car without an engine – neither goes anywhere," (Meyers, 2005, p. 27). Meyers (2005) indicated further that curriculum is the driving force behind teaching.

It is also important to consider students' social, cultural, and political contexts when designing curriculum (Beyer & Liston, 1996). Curriculum is built regarding the strengths students bring to the classroom, and it allows them to engage in all forms of knowledge (Beyer & Liston, 1996). Doerfert and Miller (2006) reported that an effective agricultural communications curriculum must be developed to ensure students' knowledge, skills, and abilities are prepared to guide the industry and its public.

According to Terry and Bailey-Evans (1995), basic coursework in agricultural communications should also include agricultural leadership, environmental science, agronomy, and animal science. The least recommended courses by professionals were horticulture, agricultural education, forestry, agricultural engineering, food science, and

wildlife management (Spreker & Rudd, 1998; Terry & Bailey-Evans, 1995). Agricultural communications curriculum should also include finance coursework including budget preparation for students focusing on public relations (Sitton, Cartmell, & Sargent, 2005). Paulson and Metzger (1990) requested that if the role of academic curriculum is to meet the needs of the industry, agricultural communications programs should inquiry continually the professionals to determine the needs and skills required for a career in agricultural communications.

Mass Media and Journalism in Mali

Reeves (1993) claimed that media could play an important role in promoting African economic development through attitude change and the encouragement of innovative behavior (as cited in Ndlela, 2009). A new model of journalism and media research was introduced to Africa after the independence of African states in the early 1960s and 1970s (Ndlela, 2009). Mali has about 170 private newspapers and more than 200 FM radio stations broadcasting across the country (IREX, 2007). More than 20 radio stations were installed in the district of Bamako alone (IREX, 2007). Print media comprises more than 40 private newspapers published in French, Arabic, and other languages (Kerr, Pettit, Roland, Steffens, Tunning, & Whitsett, 2007). Newspapers, magazines, billboards, and other forms of media are concentrated in urban areas mostly because of the low literacy rate (i.e., ˜19%) in rural areas and the lack of distribution channels (Kerr et al., 2007). Kerr et al. (2007) asserted that for newspapers to gain popularity the literacy rate will have to increase and publications must be written in multiple languages.

Urban Malians receive the national television channel and one hundred or more cable channels, provided by private services (IREX, 2007). Television has been used more in urban areas for reaching urban and peri-urban audiences (ADEA, 2001). Television, and the materials to receive a signal are not affordable by numerous Malians (Kerr et al., 2007). According to Kerr et al. (2007), "In many rural areas, people get together to watch soccer matches and other programs. This kind of congregation is also common in urban areas, where the penetration rate of television is only as high as 3.1%" (p. 23).

Radio is the primary and most widespread medium for mass communication in Mali; it is accessible to most social classes including the poor and the illiterate because it uses a variety of languages (ADEA, 2001; AFRRI, 2007; Kerr et al, 2007). Due to high illiteracy and poverty, numerous people in rural areas rely mainly on radio to get their news and information (AFFRI, 2011). Mali has one of the strongest community radio networks in Africa and is a leader in radio broadcasting in Africa due to the large number of radio stations in the country (AFFRI, 2011; Africa Renewal, 2005). Table 1 below illustrates the popularity of radio in Mali compared to the other communication outlets.

Table 1

Radio Ownership Compared with other Communication Outlets in Mali

TVs	Radios	Telephone	Cell phone	Personal computer	Internet users	# newspapers in circulation
17	108	4	4	4	1.2	30

Note. Per 1000 people (adapted from AFFRI Country Profiles, 2011)

Compared to radio most media in Africa use colonial languages to convey information to the public. Ndlela (2009) asserted that,

> For example, most media still use colonial languages, be it French or English of Portuguese, instead of African languages that are understood by the majority of African populations. Radio is perhaps the only exception. The content of the media, especially newspapers and televisions, also reflects an inclination towards western media productions and formats rather than local productions. Hence mass media are reduced to being purveyors of western culture, their life styles and celebrities, and carry very little content about development taking place within Africa itself. (p. 58)

The idea of accelerating development by using both radio and communication technologies has gained momentum in Africa generally (Africa Renewal, 2005). Community radio projects bring opportunities to community members to learn new skills; for example, in southern Mali, community members participated in a training course in Burkina Faso and learned how to operate equipment, produce programs, and manage a radio station (Africa Renewal, 2005). Despite the variety of media systems available in Mali, the press, in its current stage of development, faces many challenges, such as a difficult economic context and lack of appropriate human resources (IREX, 2007). After 50 years of independence, Mali still does not have a school of journalism. Most of the journalists in Mali were trained abroad (e.g., in Senegal, France, Morocco, Burkina Faso, or Russia). However, the government is about to establish a new school of journalism to improve its practice in Mali (Primature, 2009). Cartmell, Blackwell, Sitton, Edwards, Hynes, & Irani (2009) asserted that, “Mali’s successful transition to a functioning

democracy, including a future with national food sufficiency and a sustainable environment, is best served by a free press. Journalists who understand and uphold ethical behaviors should lead that system"(p.121). For the Mali's press to prosper in a democratic fashion, ethical practices need to be promoted in the media system to make it independent and legitimate (Cartmell et al., 2009).

Higher Education in Mali

After the social unrest in 1991, the new authorities were determined to democratize not only national institutions in Mali but also the whole development process, especially the education sector (ADEA, 2001). Mali has only one open university, i.e., the University of Bamako, with more than eighty thousand students (Mali Initiative, 2007). According to Mariko (2009), the Malian higher education system inherited most of its principles from the French colonial system; however, it has undergone a series of major reforms to meet the needs of Mali citizens. The Ministry of Education is responsible for the whole school system and implements the government's policies (Mariko, 2009). The majority of Malian professionals, who have a high level of education, are either retired or close to the age of retirement (USAID, 2003). The majority of young professionals hold a high school degree plus a four-year university education, i.e., equivalent to the American bachelor degree (USAID, 2003). However,

> the lack of qualified staff in both the public and private sectors in Mali is impeding development in the agricultural sector and general economic growth of the country. Educational institutions in Mali lack human resources to institute graduate level training in agriculture. Universities in the U.S. have the

> comparative advantage in providing quality education for Malians that will foster a viable agricultural sector. (USAID, 2003, p. 2)

Technical diploma and bachelors level trainings in agriculture are provided by the Poly-technique Institute of Katibougou (IPR/IFRA) (USAID, 2003).

In December 2009, the government of Mali passed a decree about the creation of the University of Segou (Ministry of Higher Education, 2009). The University of Segou is an agricultural-based university modeled on the land-grant university approach of the U.S.; it is to be a public teaching and research institution, which will contribute to promoting and implement the national higher education and research policy (Ministry of Higher Education, 2009). The University of Segou will include five colleges among which the college of agriculture and animal science will be the main stay (Ministry of Higher Education, 2009). The University of Segou will include several agriculture-related departments in the college of agriculture, and animal science and will contribute to building capacities in the agricultural sector (Ministry of Higher Education).

Agriculture in Mali

The economy of Mali is essentially agricultural; the harvest relies on weather and the water level in the Niger River and its tributaries (FAO, 2010). Citizens of rural communities in Mali rely on agricultural activities essentially to earn their living (Vanclay, 2004). Agriculture in Mali engages mostly small-scale farmers who deal with subsistence farming; the main crops are rice, millet, sorghum, cotton, and peanuts (FAO, 2010).

According to United States Department of State (USDOS, 2010), rice is grown extensively along the Niger River between Segou and Mopti, with the most important

rice production area at the Office du Niger. The Office du Niger irrigates about 80,000 hectares of land for rice and sugarcane (USDOS, 2010). Kater, Dembele, and Dicko (2000) stated that, the "Office du Niger in Mali is regarded as one of the rare success stories of irrigated farming in West Africa." Cotton is the most important industrial agricultural product but threatened by chronic market uncertainties (Pringle, 2006). Mali's livestock comprises millions of cattle, sheep, and goats (USDOS, 2010). Mali exports beef and fish from the Niger Delta to coastal countries (Pringle, 2006). Mali was granted the Millennium Challenge account in 2004 to support its agro-business development, as well as two other national priorities (USDOS, 2010).

According to Ouedraogo (2008), no legal framework in the area of agricultural communications exists in Mali. However, the Agriculture Act "loi d'orientation agricole" of 2006 stipulates that the government will work to make agricultural and legal information available to all agriculturalists (Ouedraogo, 2008). The government of Mali considers agricultural research and development a national priority, and, in 2001, it spent $1.03 on research and development for every $100 of agricultural output. This action put Mali in a better position compared to its close neighbors according to Stads and Kouriba (as cited in Ayele & Wield, 2005).

Progress has been made in the area of agricultural communications in Mali though the establishment of Community Learning and Information Centers where the community can come to access information and communication technology (USAID, 2005). Ouedraogo (2008) indicated that in the area of agricultural communications, the government is committed to extending different media to all areas of the country. However, a lack of financial and human resources exists to ensure the extension of media

coverage to the whole country; therefore, it would be necessary to have a capacity building plan for communications in Mali (Ouedraogo, 2008).

Chapter Summary

Chapter II presented the conceptual/theoretical framework for studying agricultural communications competencies needed by university graduates in the Republic of Mali. Sinclair (2007) stated that the theoretical/conceptual framework could be considered as the roadmap of a study.

The conceptual framework underpinning this study was based on the human capital theory. The proponents of HCT believe that the most valuable investment is that in human beings (Cornachione and Daugherty, 2008). Becker stated that they argued that investments in education and training are the most relevant types of investments (as cited in Cornachione and Daugherty, 2008). The researcher posited that human capital theory underpinned this study because its advocates educational investments and encourages development of talents, abilities and skills for the benefit of the society (Sweeland, 1996).

This chapter also dealt with the background history of agricultural communications programs. The need for agricultural communications programs was provoked by the need for land-grant universities to disseminate research findings from research stations to agricultural and non agricultural audiences through the media (Evans & Bolick, 1982). Agricultural communication communications/journalism can be traced back to the 1900s (Burnett & Tucker, 2001). Reisner (1990) concluded that 30 programs of agricultural communications existed in the United States with an average of 32 students per program.

This chapter also presented literature about competencies needed by agricultural communicators to serve the food, fiber and agricultural industry. Agricultural communications was introduced in U.S. universities for two main reasons: 1) to provide a strong basis for technical agriculture and sources for agricultural information, and, 2) to introduce journalism in agriculture. Agricultural communications graduates are trained to inform agricultural and non-agricultural audiences about research in agriculture through the media (Evan & Bolick, 1982). Terry et al. (1994) indicated that agricultural communications coursework should include 28 units consisting of 89 specific concepts.

This chapter also presented higher education in Mali. From its independence in 1960, Mali established higher education to train highly qualified human resources to support social and economical development. These schools were closed in the mid 1990s, which lead the way to a new University in 1996 (Ambassade de France au Mali, 2010).

Moreover, the chapter presented agriculture in Mali. Mali has a huge agricultural potential with enormous fertile soil, rainfall and irrigation mainly the Office du Niger Zone (Izadifar, 2008). The Malian agriculture market is diversified with horticulture, rice, peanut, cotton and livestock exports (Izadifar, 2008). Therefore remains the dominant cash crop. Cotton contributes about eight percent of the national GDP and six percent of the tax revenues (OECD/SWAC, 2006). The 2006 Agricultural act voted by the parliament constitutes the framework for growth of the agriculture sector in Mali (Izadifar, 2008).

CHAPTER III

METHOLOGY

This chapter presents the methods and procedures used in conducting the study, and how the data were analyzed. It also includes a description of the study population and sample, and describes the instrument's validity and reliability.

Institutional Review Board (IRB)

In accordance with the federal policies to protect human participants in research, Oklahoma State University policy requires prior approval of all research activities involving human subjects before the researchers can begin their study. The Office of the University Institutional Review Board at Oklahoma State University conducted a thorough review of the study in compliance with the University policy. The researcher submitted an application to Oklahoma State University's IRB board to get the research study approved and be granted permission to collect data. Copies of the approval documents are presented in Appendix A.

Context of the Study

The data collection process occurred during three weeks from May 13 to June 3, 2011. The questionnaire was emailed to a list of 27 organization media leaders in Mali. The "Maison de la Presse," which is the umbrella organization of media outlets in Mali, provided the researcher with this list. The list included not only the names of the 27 media leaders, but also the names of their organizations and their e-mail addresses. All 27

media leaders lived in Bamako, the capital city, and worked in either public or private media outlets, including television, radio, and print. The researcher provided the questionnaire in both French and English. French is the official language of Mali. Most of Mali people can only speak French and other national languages. The 27 media leaders were asked to take the survey themselves and forward it to their colleagues who were journalists. During the data collection process, the researcher received telephone and Skype calls from some of the participants who had computer issues or questions about the purpose of the study. The researcher responded to their questions with respect to the IRB protocol. However, due to limited, and at times, unreliable Internet access in Mali and the computer illiteracy of some members of the sample, the number of respondents was rather low. Only 26 respondents completed the questionnaire.

Research Design

This descriptive research study determined competencies needed by university agricultural communications graduates in the Republic of Mali. Creswell (2008) indicated that survey research enables the researcher to describe the attitudes, opinions, behaviors, or characteristics of a population by administering a survey to a sample or to the entire population. Data for this study were collected by using an online, questionnaire, which was accessible by a list of 27 leaders of media organizations in Mali. To ensure confidentiality, the questionnaire did not include any questions regarding names or addresses of participants. These individuals were also asked to pass the questionnaire to their journalist colleagues for their responses, i.e., a form of "snowballing". According to Creswell (2008),

> this form of sampling has the advantage of recruiting large numbers of participants for the study. By using this process however, you give up knowing exactly what individuals will be in your sample. It also eliminates the possibility of identifying individuals who did not return the survey, and those responding may not be representative of the population you seek to study. (p. 157)

The survey questionnaire was set up on Qualtrics web-based survey software. Dillman (2000) defined web-based surveys as collecting data through an electronic questionnaire on the web. As the number of Internet users continues to increase with rapid pace worldwide, web-based surveys used to collect data via the Internet are growing in popularity (Cobanoglu, Warde, & Moreo, 2001). Dillman (2000) found web-based surveys to be one of the most important achievements in technology advancement.

Dillman, Tortora, and Bowker (2001) argued that web-based surveys are still relevant in research. It is not clear to what extent the knowledge gained with traditional survey research techniques fully applies to Internet questionnaires. The type of Internet connection, the hardware, and the software will impact responses and how a person will respond to a web-based survey (Cobanoglu et al., 2001). Studies found that response rates to mail surveys were greater than web-based surveys (Cooper, Blair & Tripplett, 1999; Medin, Roy & Ann, 1999). Crawford et al. (2001) claimed that this difference might be caused by the lack of knowledge on how to reach high response rates using the Internet. Web congestion could be another reason for the low response rate of web-based surveys, particularly for people with less experience using the Internet (Crawford et al., 2001).

Web-based questionnaires offer more advantages than mail surveys, and professionals argue that this type of data collection should continue (Dillman, 2000).

Population and Sample

The target population of this study was media professionals in the Republic of Mali. The researcher proceeded by snowball sampling. According Creswell (2008) in snowball sampling the researcher asks respondents to identify others to become part of the sample. The online questionnaire was sent by email to a list of 27 media professionals in Mali who were asked to complete the questionnaire (Appendix E) and then forward it to their journalist colleagues. Any journalist who completed the survey became a part of the sample.

Instrument Design

In this study, a list of competencies utilized previously by Deering (2005) and developed by Terry et al. (1995) was used in a web-based format to collect data. The instrument was divided into two parts. The first part consisted of items related to eight agricultural communications competencies. The participants were asked to rate levels of importance for, and competence needed, regarding each item as it pertained to their professional area. The response scale used was:

- "0" = "None"
- "1' = "Low"
- "2" = "Moderate"
- "3" = "High"
- "4" = "Very high"

Eight constructs were identified for measuring the levels of competence and importance for the study. These constructs were in the area of agricultural communications and were adapted and reworded from a questionnaire used by Terry et al. (1995) in a similar study. The eight constructs included were as follows:

1) agriculture in Mali;
2) agriculture;
3) general communication;
4) layout and editing;
5) writing;
6) broadcasting;
7) technology; and
8) ethics.

The participants were also asked to rate their knowledge of agriculture in Mali. The response scale used was:

- "1" = "Excellent"
- "2" = "Good"
- "3" = "Poor'

The second part of the questionnaire was composed of a series of questions describing the respondents' personal and professional characteristics (Appendix E). The participants were asked to indicate sex, age, job experience, level of education, and their knowledge of agriculture, food, fiber, and natural resources. They were also asked to list the number of languages they spoke and if they thought a journalist should speak several languages to be successful in Mali.

Validity and Reliability

A panel of experts consisting of five faculty members from the Department of Agricultural Education, Communications and Leadership reviewed the instrument for content and construct validity. The questionnaire was revised and reworded according to the comments and suggestions made by the panel of experts.

A pilot test was not conducted because of time constraints. However, a post-hoc test was conducted to establish reliability of the instrument. A Cronbach's alpha was calculated on scaled items by construct regarding the level of competence and importance for the reliability of instrument, i.e., internal consistency. For the level of competence, a Cronbach's alpha was calculated and ranged from .961 to .794, and a Cronbach's alpha ranging from .962 to .882 was calculated for the level of importance (see Table 2).

Table 2

Cronbach's Alpha by Construct Regarding the Level of Competence and Importance

	Cronbach's Alpha	
Constructs	Level of Competence	Level of Importance
Malian Agriculture	.921	.908
Agriculture	.930	.915
General Communication	.794	.920
Layout and Editing	.925	.948
Writing	.934	.937
Broadcasting	.885	.882
Technology	.920	.935
Ethics	.961	.962

Data Collection

An online, web-based questionnaire was developed to collect data for this study. The questionnaire was developed using Qualtrics, an online survey format. The researcher sent an introductory electronic mail message (see Appendix B) to the research participants to invite them to complete the questionnaire and forward it to their

colleagues. The introductory electronic mail also indicated clearly the URL and stated the research study's purpose and the researcher's contact information. The participants had the choice to complete the questionnaire either in English or French.

The introductory, electronic mail message was sent to the media leaders in Mali on May 13, 2011 at 12:00 a.m. asking for their participation and providing them with instructions on how they should complete the questionnaire. A reminder electronic mail (see Appendix D) was sent to the media leaders one week after the initial message. The reminder included the same information as the introductory electronic mail message (see Appendix B). The data collection process ended on June 3, 2011 at 12:00 a.m in Mali. During the data collection, the researcher received some Skype and telephone calls and e-mail messages from participants asking for more details on the research study's purpose and instructions. Their concerns were addressed with respect to the study's IRB protocol.

Data Analysis

After collecting data, they were stored securely in a limited access database on the researcher's computer. The data were analyzed using the Statistical Package for Social Science (SPSS version 16). Descriptive statistics were used to calculate frequencies, means, modes, and percentages. The Borich (1980) needs assessment model was used, i.e., a mean weighted discrepancy score (*MWDS*) for each of the eight constructs was calculated. First, a discrepancy score for each construct was calculated by taking the mean importance rating minus the mean competence rating. Then, a weighted discrepancy score was calculated for each construct by multiplying the discrepancy score by the mean importance rating for every construct. A mean weighted discrepancy score for each construct was finally calculated by dividing the sum of the weighed discrepancy

scores by the number of the study participants (n = 26). The constructs were ranked from high to low using the mean weigh discrepancy score. Constructs with higher scores indicated competencies needed for curriculum development for agricultural communications programs in the Republic of Mali. The discrepancy model has been adapted and accepted in several needs assessment studies in agricultural education, extension, communications, and leadership. (Borich, 1980; Edwards & Briers, 1999; Garton & Chung, 1997; Robinson & Garton, 2008; Terry et al., 1995)

CHAPTER IV

FINDINGS

This chapter describes the findings of the study based on the data collected and analyzed.

Personal and Professional Characteristics of the Participants

Twenty-six Malian media professionals participated in this study. Of the 26 participants, 19 (73.1%) were male, and seven (26.9%) were female (see Table 3).

Table 3

Sex of Participants (n = 26)

Sex	*f*	*%*
Male	19	73.1
Female	7	26.9
Total	26	100

Participants were asked to indicate their age per the categories provided. Fifteen (57.7%) indicated their age was 36 to 45, seven (26.9%) were from 26 to 35, three (11.5%) were aged 46 to 55, and only one (3.8%) was from 18 to 25 years old (see Table 4).

Table 4

Age Range of Respondents (n = 26)

Age	*f*	*%*
18 to 25	1	3.8
26 to 35	7	26.9
36 to 45	15	57.7
46 to 55	3	11.5
Total	26	100

Sixteen participants (61.5%) indicated having a master degree, seven (26.9%) indicated having a bachelor degree, one (3.8%) indicated having a doctoral degree, one (3.8%) had a high school diploma, and one (3.8%) indicated “other” (see Table 5).

Table 5

Academic Degree Earned by Participants (n = 26)

Type of Degree	*f*	*%*
High School diploma	1	3.8
Bachelor degree	7	26.9
Master degree	16	61.5
Doctoral degree	1	3.8
Other	1	3.8
Total	26	100.0

Experience in Journalism

Participants were asked to indicate the number of years of experience they had acquired in journalism. Three (11.5%), respondents indicated having 17 years of journalism experience, three (11.5%) indicated having two years, and three (11.5%) indicated having one year of experience. The remainder of the respondents indicated the following years of experience: two (7.7%) had three years of experience, two (7.7%) had four years of experience, two (7.7%) had seven years of experience, two (7.7%) had 11 years of experience, two (7.7%) had 19 years of experience, one (3.8%) had 22 years of

experience, one (3.8%) had 15 years of experience, one (3.8%) had 12 years of experience, one (3.8%) had 10 years, and one (3.8%) had five years. The participants' years of professional experience as journalists ranged from 1 to 22, and their mean years of professional experience was 4.92 (see Table 6).

Table 6

Number of Years of Experience as a Journalist (n = 26)

Years in Journalism	*f*	%
1	3	11.5
2	3	11.5
3	2	7.7
4	2	7.7
5	1	3.8
7	2	7.7
10	1	3.8
11	2	7.7
12	1	3.8
15	1	3.8
17	3	11.5
19	2	7.7
22	1	3.8
No response	2	7.7
Total	26	100.0
	Range	*M*
	1 to 22	4.92

The respondents were asked to specify the number of full-time journalistic jobs they had acquired in their career, including their current position. Seven (26.9%) indicated having two jobs, five (19.2%) indicated having more than five jobs, five (19.2%) indicated four jobs, three (11.5%) indicated three jobs, three (11.5%) indicated one job, two (7.7%) indicated five jobs, and one (3.8%) did not respond (see Table 7).

Table 7

Number of Full-time Journalistic Jobs Held (n = 26)

Number of full-time journalistic jobs held	*f*	*%*
1	3	11.5
2	7	26.9
3	3	11.5
4	5	19.2
5	2	7.7
More than 5	5	19.2
No response	1	3.8
Total	26	100

Knowledge of Agriculture in Mali

Respondents were asked to rate their knowledge of agriculture in Mali. A majority of respondents (57.7%) indicated their knowledge level as "*good*," nine (34.6%) perceived their knowledge level as "*poor*," and two (7.7%) did not respond (see Table 8).

Table 8

Knowledge of Agriculture in Mali (n = 26)

Perceived knowledge	*f*	*%*
Good	15	57.7
Poor	9	34.6
No response	2	7.7
Total	26	100

Note. Scale: "1" = "Excellent," "2" = "Good," 3 = "Poor"

The participants were asked to indicate the number of courses they had in school related to agriculture, food, fiber, and natural resources, including all levels of education. Twelve (46.2%) indicated three courses, seven (26.9%) indicated two courses, three (11.5%) indicated five or more courses, two (7.7%) did not respond, one (3.8%) indicated five courses, and one (3.8%) indicated four courses (see Table 9).

Table 9

Number of Courses Completed in Agriculture, Including all Levels of Education (n = 26)

Number of agriculture related courses	*f*	*%*
2	7	26.9
3	12	46.2
4	1	3.8
5	1	3.8
5 or more	3	11.5
No response	2	7.7
Total	26	100

Number of Languages spoken

Respondents were asked to indicate the number of languages they could speak. Twelve (46.2%) respondents indicated they could speak three languages, seven (26.9%) indicated two languages, three (11.5%) indicated five or more languages, two (7.7%) did not respond, one (3.8%) indicated five languages, and one (3.8%) indicated four languages spoken (see Table 10).

Table 10

Number of Languages Spoken by Respondents (n = 26)

Number of languages spoken	*f*	*%*
2	7	26.9
3	12	46.2
4	1	3.8
5	1	3.8
5 or more	3	11.5
No response	2	7.7
Total	26	100.0

Respondents were asked to indicate whether a journalist in Mali should speak multiple languages to be successful. The overwhelming majority (96.2%) indicated "yes," and only one participant (3.8%) indicated "no" (see Table 11).

Table 11

Journalists in Mali Should Speak Multiple Languages to be Successful (n = 26)

Should speak multiple languages	*f*	%
Yes	25	96.2
No	1	3.8
Total	26	100

Findings Related to the Levels of Importance and Competence Regarding of Mali's Agriculture

The respondents were asked to rate the level of importance and to designate their level of competence for each item regarding Mali's agriculture. Means and standard deviations were used to describe the levels of importance and competence. As to the level of importance, the item "Describe the impact of agriculture upon all Malians" had the highest mean (M = 3.77; SD = .863) and "Assess the level of agriculture literacy" had the lowest mean (M = 3.12; SD = .952). As to the level of competence, the item "Describe the impact of agriculture upon all Malians" had the highest mean (M = 3.2; SD = 1.151) and "Discuss food development techniques" had the lowest mean (M = 2.85; SD = 1.120) (see Table 12).

Table12

Levels of Importance and Competence in Malian Agriculture (n = 26)

Items	Level of Importance			Level of Competence		
	M	*SD*	R*	*M*	*SD*	R*
Describe the agriculture community in Mali	3.38	1.023	4	3.23	1.107	3
Assess the level of agriculture literacy in Mali	3.12	.952	7	2.92	1.017	5
Describe the impact of agriculture upon all Malians	3.77	.863	1	3.27	1.151	1
Discuss food development techniques	3.35	.977	5	2.85	1.120	7
Discuss food security/ sufficiency issues		1.102	3	3.19	1.201	4
Describe food and natural resources policy	3.35	1.056	6	2.92	1.164	6
Understand the agriculture organizations structures	3.46	1.104	2	3.24	1.128	2

Note. Scale: "0" = "None," "1" = "Low," "2" = "Moderate," "3" = "High," "4" = "Very High," * Ranking

Findings Related to the Levels of Importance and Competence Regarding Agriculture

The study participants were asked to rate the level of importance and to designate their level of competence for each item regarding agriculture. Means and standard deviations were used to describe the levels of importance and competence. As to the level

of importance, the item “Discuss the cultural impact of agricultural trade” had the highest mean (*M = 3.42; SD* = .945) and “Determine the impact of biotechnology on the world productions systems” had the lowest mean (*M* = 3.12*; SD* = 1.013). As to the level of competence, the item “Describe the role agriculture plays in international relations” had the highest mean (*M* = 3.35; *SD* = 1.093) and the items “Analyze the public perception of plant and animal food issues,” “Determine the impact of biotechnology on the world production systems,” and “Understand the impacts and controversies surrounding GMOs” had the lowest means (*M* = 3.04; *SD* = 1.207) with standard deviations of 1.060, 1.207, and 1.214, respectively (see Table 13).

Table 13

Levels of Importance and Competence in Agriculture (n = 26)

Items	Level of Importance			Level of Competence		
	M	*SD*	R*	*M*	*SD*	R*
Discuss the impact of government and legislative policy upon agriculture.	3.23	1.210	5	3.23	1.070	2
Analyze the public perception of plant and animal food issues	3.31	.884	3	3.04	1.060	5
Determine the impact of biotechnology on the world productions systems	3.12	1.013	7	3.04	1.207	6
Understand the impacts and controversies surrounding GMOs	3.23	1.032	4	3.04	1.216	7
Discuss environmental/global issues	3.19	1.021	6	3.08	1.256	4
Describe the role agriculture plays in international relations	3.36	.810	2	3.35	1.093	1
Discuss the cultural impact of agricultural trade	3.42	.945	1	3.15	.967	3

Note. Scale: "0" = "None," "1" = "Low," "2" = "Moderate," "3" = "High," "4" = "Very High," * Ranking

Findings Related to the Levels of Importance and Competence Regarding General Communications

The Mali media professionals were asked to rate the level of importance in their professional area and to designate their level of competence for each item regarding general communications. Means and standard deviations were used to describe the levels

of importance and competence. As to the level of importance, the item "Create news stories in multiple formats" had the highest mean (*M* = 3.69*; SD* = .884) and "Use effective non-verbal communication" had the lowest mean (*M* = 3.16*; SD* = 1.106). As to the level of competence, the item "Use a variety of means including print, radio and video to inform the public" had the highest mean (*M* = 3.81; *SD* = .939) and the item "Generate newsworthy story ideas" had the lowest mean (*M* = 3.12; *SD* = 1.177) (see Table 14).

Table 14

Levels of Importance and Competence in General Communications (n = 26)

Items	Level of Importance			Level Competence		
	M	*SD*	R*	*M*	*SD*	R*
Generate newsworthy story ideas	3.23	1.210	5	3.12	1.177	2
Use effective non-verbal communication	3.16	1.106	3	3.15	.881	5
Know how to use a news wire	3.54	.948	7	3.54	.761	6
Describe the ways in which news and other information is disseminated to the public	3.54	.859	4	3.27	.724	7
Compare the effectiveness of various dissemination systems for different messages and audiences	3.44	.961	6	3.23	.765	4
Use of variety of means including print, radio and video to inform the public	3.65	.846	2	3.81	.939	1
Create news stories in multiple formats	3.69	.884	1	3.58	.902	3

Note. Scale: "0" = "None," "1" = "Low," "2" = "Moderate," "3" = "High," "4" = "Very High," * Ranking

Findings Related to the Levels of Importance and Competence Regarding Layout and Editing

The respondents were asked to rate the level of importance in their professional area and to designate their level of competence for each item regarding layout and editing. Means and standard deviations were used to describe the levels of importance and competence. As to the level of importance, the item "Apply reporting and writing skill in a 'real word' situation" had the highest mean (M = 4.04; SD = .958) and "Use correct editing marks and symbols" had the lowest mean (M = 3.68; SD = 1.180). As to the level of competence, the item "Edit the work of others; accurately proofread a document" had the highest mean (M = 3.88; SD = .952) and the item "Determine if a topic would be best written as a news or feature article" had the lowest mean (M = 3.42; SD = .929) (see Table 15).

Table 15

Levels of Importance and Competence in Layout and Editing (n = 26)

Items	Level of Importance			Level of Competence		
	M	*SD*	R*	*M*	*SD*	R*
Edit the work of others; accurately proofread a document	3.85	1.008	3	3.88	.952	1
Use correct editing marks and symbols	3.68	1.180	7	3.58	1.102	6
Appropriately cite sources	3.84	.898	4	3.68	.945	4
Determine if a topic would be best written as a news or feature article	3.69	1.011	6	3.42	.929	7
Describe the principle of journalism clearly and concisely	3.92	1.055	2	3.69	1.158	3
Apply reporting and writing skill in a "real word" situation	4.04	.958	1	3.69	.970	2
Critique and edit the layout and the design of a publication	3.81	1.132	5	3.62	1.098	5

Note. Scale: "0" = "None," "1" = "Low," "2" = "Moderate," "3" = "High," "4" = "Very High," * Ranking

Findings Related to the Levels of Importance and Competence Regarding Writing

The respondents were asked to rate the level of importance in their professional area and to designate their level of competence for each item regarding writing. Means and standard deviations were used to describe the levels of importance and competence. As to the level of importance, the item "Write using appropriate grammar" had the

highest mean (*M* = 4.15*; SD* = .881) and "Write for the Internet" had the lowest mean (*M* = 3.73*; SD* = 1.185). As to the level of competence, the items "Write using appropriate grammar" and "Write using appropriate punctuation" had the highest means (*M* = 4.08; *SD* = .744; .812, respectively) and the item "Write for the Internet" had the lowest mean (*M* = 3.46; *SD* = 1.208) (see Table 16).

Table 16

Levels of Importance and Competence in Writing (n = 26)

	Level of Importance			Level of Competence		
Items	*M*	*SD*	R*	*M*	*SD*	R*
Write using appropriate journalistic style	3.81	1.167	6	3.65	1.129	6
Write using appropriate grammar	4.15	.881	1	4.08	.744	1
Write using appropriate punctuation	4.08	.891	2	4.08	.812	2
Write in appropriate news article format	3.96	1.098	4	3.73	1.116	5
Write news and feature stories about agriculture topics	4.00	.894	3	3.81	1.096	4
Gather and synthesize information	3.88	.952	5	3.85	1.008	3
Write for the Internet	3.73	1.185	7	3.46	1.208	7

Note. Scale: "0" = "None," "1" = "Low," "2" = "Moderate," "3" = "High," "4" = "Very High," * Ranking

Findings Related to the Levels of Importance and Competence Regarding Broadcasting

The participants were asked to indicate the level of importance in their professional area and to designate their level of competence for each item regarding

broadcasting. Means and standard deviations were used to describe the levels of importance and competence. For the level of importance, the item “Gather and use natural sound to complement a story” had the highest mean (*M* = 3.91; *SD* = .949), and “Apply effective speaking techniques” had the lowest mean (*M* = 3.58; *SD* = 1.018). As to the level of competence, the item “Interview a source of information for a news story” had the highest mean (*M* = 3.88; *SD* = .952), whereas the item “Converse knowledgeably on different areas in agriculture” had the lowest mean (*M* = 2.88*; SD* = 1.166) (see Table 17).

Table 17

Levels of Importance and Competence in Broadcasting (n = 26)

Items	Level of Importance			Level of Competence		
	M	*SD*	R*	*M*	*SD*	R*
Interview a source of information for a news story	3.88	.781	2	3.88	.952	1
Apply effective speaking techniques	3.58	1.018	7	3.23	1.070	5
Use the voice to maintain the interest of the audience	3.76	.779	4	3.46	.761	2
Use appropriate inflections tone and volume	3.80	1.000	3	3.16	1.068	6
Converse knowledgeably on different areas in agriculture	3.76	.926	5	2.88	1.166	7
Gather and use natural sound to complement a story	3.91	.949	1	3.27	1.185	3
Prepare broadcasting pieces in multiple languages	3.68	1.180	6	3.27	1.218	4

Note. Scale: "0" = "None," "1" = "Low," "2" = "Moderate," "3" = "High," "4" = "Very High," * Ranking

Findings Related to the Levels of Importance and Competence Regarding Technology

The data were analyzed to determine the level of importance and the level of competence for each item regarding technology. Means and standard deviations were used to describe the levels of importance and competence. For the level of importance, the item "Transfer and download information through a network" had the highest mean

(*M* = 4.27; *SD* = 778) and "Operate radio studio equipment such as a sound board" had the lowest mean (*M* = 3.65; *SD* = 1.056). As to the level of competence, the item "Navigate the Internet; send and receive email" had the highest mean (*M* = 4.23; *SD* = .951), whereas the item "Deliver video or audio over the Internet" had the lowest mean (*M* = 3.23; *SD* = 1.177) (see Table 18).

Table 18

Levels of Importance and Competence in Technology (n = 26)

	Level of Importance			Level of Competence		
Items	*M*	*SD*	R*	*M*	*SD*	R*
Navigate the Internet; send and receive email	4.15	.881	2	4.23	.951	1
Transfer and download Information through a network	4.27	.778	1	4.12	.864	2
Deliver video or audio over the Internet	3.88	.927	5	3.23	1.177	7
Operate communication equipments	3.88	.993	6	3.69	1.011	5
Understand computer applications	4.08	.891	3	4.12	.864	2
Use social media tool to direct an audience to news content	3.96	.999	4	3.77	1.210	4
Operate radio studio equipment such as a sound board	3.65	1.056	7	3.54	1.104	6

Note. Scale: "0" = "None," "1" = "Low," "2" = "Moderate," "3" = "High," "4" = "Very High," * Ranking

Findings Related to the Levels of Importance and Competence Regarding Ethics

The data were analyzed to determine the level of importance and the level of competence for each item regarding ethics per the participants' responses. Means and standard deviations were used to describe the levels of importance and competence. For the level of importance, the item "Demonstrate the characteristics of responsibility and credibility" had the highest mean (M = 3.92*; SD* = 1.055), whereas "Describe common dilemmas faced by journalists" had the lowest mean (M = 3.68*; SD* = 1.180). As to the level of competence, the item "Describe ethical challenges facing journalists" had the highest mean (M = 3.85; SD = 1.047) and the item "Discuss and define communications regulations and the rights of a journalist" had the lowest mean (M = 3.45*; SD* = .948) (see Table 19).

Table 19

Levels of Importance and Competence in Ethics (n = 26)

	Level of Importance			Level of Competence		
Items	*M*	*SD*	R*	*M*	*SD*	R*
Describe ethical challenges facing journalists	3.88	1.033	2	3.85	1.047	1
Describe common dilemmas faced by journalists	3.68	1.180	7	3.73	.962	3
Discuss ethical standards that exist in the field of journalism	3.73	1.002	6	3.64	.952	4
Determine ethical solutions to problems	3.81	.981	4	3.46	.989	6
Discuss legal problems facing journalists	3.76	1.052	4	3.58	.987	5
Discuss and define communications regulations and the rights of a journalist	3.85	1.084	3	3.45	948	7
Demonstrate the characteristics of responsibility and credibility	3.92	1.055	1	3.81	.939	2

Note. Scale: "0" = "None," "1" = "Low," "2" = "Moderate," "3" = "High," "4" = "Very High," * Ranking

Findings Related to Priority Areas Regarding Agricultural Communications Curriculum in Mali Universities

The study included eight constructs, which consisted seven items each. The Borich (1980) needs assessment model was used to determine a ranking of priorities. A discrepancy score for each of the eight constructs was calculated by taking the mean

importance rating minus the mean competence rating. A weighted discrepancy score was then calculated for each construct by multiplying the discrepancy score by mean importance rating for that construct. A mean weighted discrepancy score for each construct was finally calculated for each construct by dividing the sum of the weighed discrepancy scores by the number of participants in the study (n =26). The constructs were ranked from high to low using the mean weigh discrepancy score. Constructs with higher scores indicated the competencies needed for curriculum development for agricultural communications programs in the Republic of Mali. Layout and editing had the highest mean weighted discrepancy score (*MWDS* = 3.09), whereas the lowest mean weighted discrepancy score was Malian agriculture (*MWDS* = -.155). The other constructs rated the following: broadcasting (*MWDS* = 1.95), ethics (*MWDS* = 1.57), Knowledge of agriculture (*MWDS* = 1.52), technology (*MWDS* = 1.13), and writing (*MWDS* = 1.10), and general communications (*MWDS* = .95) (see Table 20).

Table 20

Mean Weighed Discrepancy Score for the Study's Constructs (n = 26)

Constructs	*MWDS*
Layout and Editing	3.09
Broadcasting	1.95
Ethics	1.57
Knowledge of Agricultural	1.52
Technology	1.13
Writing	1.10
General Communications	.95
Malian agriculture	-.155

Note. Scale: "0" = "None," "1" = "Low," "2" = "Moderate," "3" = "High," "4" = "Very High"

CHAPTER V

SUMMARY, CONCLUSIONS AND IMPLICATIONS, RECOMMENDATIONS, AND DISCUSSION

This chapter includes four sections: summary, conclusions and implications, recommendations, and discussion.

Summary

Chapter I is an introduction to the study. The economy of Mali relies essentially on agriculture. Agriculture occupies more than 75% of the active population and represents 45% of the Gross Domestic Product (GDP) and 30% of the country's exports (Ministry of Agriculture, 2009). The government of Mali has been committed to turning agriculture into a powerful sector through the agricultural guideline law (loi d'orientation agricole) passed in 2006. This ambitious program requires the capacity building and training of agricultural communicators to convey the vision to change from subsistence agriculture to sustainable agriculture.

The purpose of this study was to determine the competencies needed by university graduates of agricultural communications in the Republic of Mali, as perceived by media professionals. The study determined the levels of importance and competence of participants in items related to their professional areas. This study may lead the way to a framework for curriculum development in agricultural communications at the tertiary level in Mali.

Chapter II presented a review of literature for this study. The literature comprised seven sections: conceptual/theoretical framework, the background history of agricultural communications, competencies areas of agricultural communicators, journalism and mass media in Mali, agricultural communications curriculum, higher education in Mali, agriculture in Mali, web surveys, and summary. According to Creswell (2008), a literature review is a written summary of journal articles, books, and other documents that support the past and current state of information on the research topic. It helps to document how the study adds to the existing literature.

Chapter II presented a background history of agricultural communications programs. Agricultural communications/journalism can be traced back to the 1900s (Burnett & Tucker, 2001). Agricultural communications programs were developed in U.S. land-grant universities to disseminate research findings to agricultural and non-agricultural audiences through the media (Evan & Bolick, 1982). Agricultural communication, according to Reisner (1990), is the profession that uses communication techniques and theory to support decision-making of food companies. The chapter also provides some literature on agricultural communications curriculum. Kroupa and Evans (1973) conducted a study involving communications professionals regarding competencies appropriate for the agricultural communications curriculum. In addition, the chapter presented literature about higher education and agriculture in Mali.

Chapter III presents the research methodology used in this study. It includes eight sections: institutional review board, the context of the study, the research design, the population and sample, instrument design, validity and reliability, data collection, and data analysis.

Chapter IV describes the findings of the research study. First, the chapter presents study participants' personal and professional characteristics: sex, age range, education, and experience in journalism. Second, the chapter reports the findings per constructs. Under each construct were seven competencies rated by the respondents according to their levels of importance and competence in their professional area. The chapter also reported a ranking of the eight constructs according to the mean weighed discrepancy score (Borich, 1980).

Major Findings

More than one half (57.7%) of the Mali media professionals in this study were in their mid-career situated in age range of 36 to 45, and the majority (73.1%) were male. More than one half (61.5%) of the participants held a master's degree. The average professional experience for the study participants was almost five years (M = 4.92), and the average number of full-time journalistic jobs held by the participants was two (M=2.33). More than one half (57.7%) of the respondents perceived their knowledge of the agriculture, food fiber, and natural resources industry as "good." None of them chose "excellent" as a response. Nearly one half (46.2%) of the participants completed at least three courses related to agriculture during their formal education. The same percentage (46.2%) of participants could speak at least three languages, and almost all participants (96.2%) agreed that a journalist in Mali should speak multiple languages to be successful.

For the levels of importance and competence in Malian agriculture, the item "Describe the impact of agriculture upon all Malians" was ranked first by the participants (M = 3.77) for the level of importance, the item "Describe the impact of agriculture upon all Malians" was ranked first in regard to competence (M = 3.27).

As to levels of importance in agriculture, the item “Discuss the cultural impact of agricultural trade” was rated the highest (*M* = 3.42), and the item “Describe the role agriculture plays in international relations” ranked first in regard the competence (*M* = 3.35). For the levels of importance and competence regarding general communications, the item “Create news stories in multiple formats” ranked at the top (*M* = 3.69) for importance, whereas the item “Use of variety of means including print, radio, and video to inform the public” ranked highest in regard to competence (*M* = 3.81).

Based on the data analysis, for levels of importance regarding layout and editing, the item “Apply reporting and writing skill in a `real word` situation” was rated highest (*M = 4.04*). For the level of competence, the item “Edit the work of others; accurately proofread a document” was rated first (*M* = 3.88).

The respondents ranked the items related to writing in their professional area as follows: “Write using appropriate grammar” was rated first in the level of importance (*M* = 4.15), whereas the items “Write using appropriate grammar” and “Write using appropriate punctuation” tied and were ranked at the top regarding competence (*M* = 4.08). The participants rated the item “Gather and use natural sound to complement a story” highest for level of importance in regard to broadcasting, (*M* = 3.91), whereas the item “Interview a source of information for a news story” was rated highest as to competence (*M* = 3.88).

Based on the analysis of data, respondents rated the levels of importance and competence of the items in regard to technology as follows: the item “Transfer and download information through network” was rated first in level of importance (*M* = 4.27), the item “Navigate the Internet; send and receive email” was rated the highest

regarding the level of competence (M = 4.23). Of the eight items that comprised ethics in the professional area, the respondents ranked the items "Demonstrate the characteristics of responsibility and credibility" as highest in level of importance (*M* = 3.92), and "Describe ethical challenges facing journalists" (*M* = 3.85) was rated the highest in regard to competence.

Based on the results of the calculation of the mean weighed discrepancy scores, the construct "Layout and editing" had the highest mean weighted discrepancy score (*MWDS* = 3.09). "Malian agriculture" had the lowest mean weighted discrepancy score (*MWDS* = -.155).

Conclusions and Implications

Based on the data collected and analyzed in this research study, the researcher made the following conclusions:

- The majority of agricultural communicators in Mali were educated males who had an average of five years of professional experience and spoke more than three languages.
- For journalists in Mali to be successful professionally they need to speak multiple languages. This conclusion is supported by Ndlela (2009) who asserted that media needs to emphasize use of African languages that are understood by the majority of African populations. The media should be purveyors of African culture and carry content about development occurring within Africa. This will be only possible if the agricultural communications/ journalism curriculum includes language courses targeting local languages.

- A journalist in Mali should understand the impact of agriculture on the people of Mali and report on national agricultural issues. This conclusion is accordance with Sweetland (1996) who stated that investment in education provides individuals and society with benefits that lead to individual and national growth.
- It is important for Malian agricultural communicators to discuss the cultural impact of agricultural trade.
- An agriculture communicator in Mali needs to be competent in describing the role agriculture plays in international trade.
- An agricultural communicator must be able to create news stories in multiple formats (radio, televisions, newspaper, etc.). This conclusion is supported by IREX (2007) who requested that despite the variety in the media system in Mali, the press, in its current stage of development, faces many challenges, such as lack of appropriate human resources. A need exists to have a holistic approach in training agricultural communicators in Mali in broadcasting.
- An agricultural communicator in Mali must be able to apply reporting and writing skills in `real word situations.
- An agricultural communicator must be competent in editing the work of others, i.e., proofreading a document accurately. In addition he or she should be competent in writing by using appropriate grammar and correct punctuation. These conclusions are in accordance with previous studies by Morgan (2008) and Terry et al. (1995) who indicated that

agricultural communications graduates need to acquire skills about editing, organizing thoughts, using proper grammar, and using proper strategic writing style.

- An agricultural communicator in Mali needs to be competent in interviewing a source of information for news stories.
- For an agricultural communicator in Mali to be ethical, he/she must demonstrate a sense of responsibility by understanding the ethical challenges facing journalists. This finding is consistent with research conducted by Cartmell et al. (2009). They found that for the press system in Mali to flourish democratically, ethical practices need to be promoted in the media system to make it independent and legitimate

Based on the findings this study, a curriculum of agricultural communication in Mali should be developed primarily in the areas of layout and editing, broadcasting, ethics, agriculture, use of technologies, and writing.

Recommendations

Recommendations for Future Research

1. Research needs to be conducted to determine why women are fewer in media professions in Mali.
2. A similar study needs to be conducted to assess competencies needed by potential faculty members of agricultural communications in of Mali.
3. A needs assessment to define the material and financial capacities necessary to establish a journalism/communications school at the tertiary level in Mali needs to be done.

4. According to Tyler (1969), other agricultural communications stakeholders need to be surveyed (as cited Simon, Akers, Doerfert, & Davis, 2005). As such, similar studies need to be done involving representatives of farmers' organizations and governmental and non-governmental agencies (e.g., through personal interviews and from group discussions).
5. Further research should be conducted to determine the course contents of each of the curriculum priorities identified in this research.

Recommendations for Future Practice

1 Agricultural communications curriculum in Mali must be developed and should comprise the following competencies: layout and editing, broadcasting, and use of technology or applied to agricultural communications and writing. The curriculum should also include language and speech skills.

2 The items in this research, which had moderate and above means, should be used by Mali universities to develop agricultural communications curriculum.

3 Agricultural communications curriculum in Mali should be generalized to different areas of communications in order to provide graduates with a range of employment opportunities, i.e., broadcasting, photography, web design, and public relations. This recommendation is consistent with Smith (2010) who posited that it is important to assist individuals in acquiring sector specific skills for preparing people for specific jobs.

4 The agricultural communicators curriculum in Mali should also include agri-business and economics coursework.

5 More females should be trained and encourage to take up communications and journalism professions.

6 To determine the content for the curriculum in agricultural communications programs in the areas identified in this study, the researcher recommends that planners use the "Developing A Curriculum" (DACUM) approach. The DACUM approach is a unique, innovative, and low-cost approach in developing high quality curriculum content in a short period of time (Harris 1988; King, 1999).

Discussion

A university education is a new phenomenon in Mali. The first Mali University opened its doors in 1995. If the government replicates the university land-grant system of the U.S., universities play an important role in development in Mali, the land-grant universities were established in the U.S. by the Morrill Act of 1862. They aimed to provide access to higher education regardless of the person's wealth or social status by educating and training professional careers in the agricultural industry and strengthening and defending the American democracy (Herren & Edwards, 2002). The land grant-universities play important roles in the agricultural sector in the areas of teaching, research, and extension.

The researcher posited that a developing country needs to have a model of university by the people and for the people (land-grant) to disseminate research, promote instruction, and provide service. The Mali's government should pass a bill like the Morrill Act (1862), which established a university in every state to serve the needs of the common people and teach practical skills in the U.S. In the same view, Arnold Toybee, a

distinguished British historian asserted that, “the land-grant idea is the one original contribution of American higher education” (as cited in Bonnen, 1998, p. 4).

Programs such as agricultural communications, if established, will improve not only the relationships between researchers and research consumers but they will also inform, educate, and entertain the agricultural and non-agricultural people, especially if focused on broadcasting because of the low literacy rate in Mali. AFFRI (2011) indicated that due to high illiteracy and poverty, numerous people in rural areas relied on radio mainly to get their news and information. Only decision-makers and the elites in major cities have the privilege of receiving their news from television and print. According to Kerr et al. (2007), in sub-Saharan countries, television is limited mostly to urban centers of the countries.

This study generated information on potential curriculum priority areas in agricultural communications from which an appropriate curriculum could be developed. The study’s findings indicated that more emphasis should be exerted in the areas of layout and editing, broadcasting, technology, and ethics. Previous research (Doerfert et al., 2004) supported the inclusion of writing, editing, and technology in the curriculum for undergraduate students agricultural communications.

The data collected during this study informed the researcher on the importance of agricultural communications curriculum areas to be emphasized in Mali. However, the researcher believes that he would have found more information about this phenomenon if he had spent more time in the field and involved more participants such as representatives of farmers’ organizations and governmental and non-governmental agencies in this study (e.g., through personal interviews and from group discussions). The researcher hopes, the

findings of this research will serve as starting point for a department of agricultural communications, or a school of journalism in Mali.

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APPPENDIXES

APPENDIX A

INSTITUTIONAL REVIEW BOARD

APPROVAL LETTER

Oklahoma State University Institutional Review Board

Date:	Thursday, May 12, 2011
IRB Application No	AG1129
Proposal Title:	Competences Needed by University Graduates of Agricultural Communications/Journalism in the Republic of Mali
Reviewed and Processed as:	Exempt

Status Recommended by Reviewer(s): Approved **Protocol Expires: 5/11/2012**

Principal Investigator(s):

Assoumane A. Maiga
38 S. Univ. Place Apt. 4
Stillwater, OK 74075

Dwayne Cartmell
448 Ag
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Shelia Kennison, Chair
Institutional Review Board

APPENDIX B

SURVEY INTRODUCTORY EMAILS

Dear Malian Media Professionals,

I need your help! I am trying to determine competencies needed by agricultural communications/journalism graduates in the Republic of Mali. I am asking that you assist me in identifying journalists in Mali to fill out the following survey:

http://tinyurl.com/3ruy9os

This survey will take approximately 15 minutes to complete. Also, please assist me by taking the survey yourself after passing it along to your colleagues. If you desire to take the survey in French rather than English, please click on the word English in the upper-right hand corner of the screen and select French.

Your immediate assistance with this research effort is greatly appreciated. Please let me know if you have any questions about this project.

Sincerely,

Assoumane Alhassane Maiga
Graduate Student, Agricultural Communications
maiga@okstate.edu

Chers professionnels des media du Mali,

Je vous envoie cette note a titre de rappel que j'ai besoin de votre appui! La semaine dernière, je vous envoyé le message ci-dessous :

Je voudrais déterminer les compétences que les étudiants en communication/journalisme agricole doivent avoir pour réussir dans le domaine du journalisme au Mali. Je vous demande de m'aider à identifier des journalistes au Mali pour répondre à mon questionnaire en cliquant sur le lien suivant :

http://tinyurl.com/3ruy9os

Cette enquête vous prendra approximativement 15 minutes. Je souhaiterais aussi que vous répondiez vous même et que vous encouragiez vos collègues à faire de même. Si vous désirez répondre aux questions en Français au lieu de l'Anglais, cliquez sur le mot « English » dans la fenêtre à l'angle à droite de l'écran pour choisir la langue.

Nous apprécions fortement votre assistance à cette recherche. Si vous avez des questions en rapport avec cette étude vous pouvez me contacter en toute liberté.

Si vous avez déjà passee le message a vos collègues, je vous remercie de votre assistance. Si vous n'aviez pas encore passe cette information, je vous serais reconnaissant de le faire en ce moment. Priere de passer ce courrier a vos collègues journalistes du Mali. Merci.

Assoumane Alhassane Maiga

Graduate Student, Agricultural Communications

maiga@okstate.edu

APPENDIX C

SURVEY COVER LETTERS

Dear Malian Media Professionals,

I need your help! I am trying to determine competencies needed by agricultural communications/journalism graduates in the Republic of Mali. I am asking that you assist me in identifying journalists in Mali to fill out the following survey:

http://tinyurl.com/3ruy9os

This survey will take approximately 15 minutes to complete. Also, please assist me by taking the survey yourself after passing it along to your colleagues. If you desire to take the survey in French rather than English, please click on the word English in the upper-right hand corner of the screen and select French.

Your immediate assistance with this research effort is greatly appreciated. Please let me know if you have any questions about this project.

Sincerely,

Assoumane Alhassane Maiga
Graduate Student, Agricultural Communications
maiga@okstate.edu

Chers professionnels des media du Mali,

J'ai besoin de votre appui! Je voudrais déterminer les compétences que les étudiants en communication/journalisme agricole doivent avoir pour réussir dans le domaine du journalisme au Mali. Je vous demande de m'aider à identifier des journalistes au Mali pour répondre à mon questionnaire en cliquant sur le lien suivant :

http://tinyurl.com/3ruy9os

Cette enquête vous prendra approximativement 15 minutes. Je souhaiterais aussi que vous répondiez vous même et que vous encouragiez vos collègues à faire de même. Si vous désirez répondre aux questions en Français au lieu de l'Anglais, cliquez sur le mot « English » dans la fenêtre à l'angle à droite de l'écran pour choisir la langue.

Nous apprécions fortement votre assistance à cette recherche. Si vous avez des questions en rapport avec cette étude vous pouvez me contacter en toute liberté.

Assoumane Alhassane Maiga

Graduate Student, Agricultural Communications

maiga@okstate.edu

APPENDIX D

REMINDER ELECTRONIC MESSAGE

Dear Malian Media Professionals,

I am sending this note as a reminder that I need your help! Last week I sent you the following message below:

I am trying to determine competencies needed by agricultural communications/journalism graduates in the Republic of Mali. I am asking that you assist me in identifying journalists in Mali to fill out the following survey:

http://tinyurl.com/3ruy9os

This survey will take approximately 15 minutes to complete. Also, please assist me by taking the survey yourself after passing it along to your colleagues. If you desire to take the survey in French rather than English, please click on the word English in the upper-right hand corner of the screen and select French.

Your immediate assistance with this research effort is greatly appreciated. Please let me know if you have any questions about this project.

If you have passed this message along to your colleagues, I appreciate your assistance. If you have not passed this information on yet, I would appreciate your help at this time. Please pass this email on to all colleagues you know who are working journalists in Mali. Thanks!

Sincerely,

Assoumane Alhassane Maiga
Graduate Student, Agricultural Communications
maiga@okstate.edu

Chers professionnels des media du Mali,

Je vous envoie cette note a titre de rappel que j'ai besoin de votre appui! La semaine dernière, je vous envoyé le message ci-dessous :

Je voudrais déterminer les compétences que les étudiants en communication/journalisme agricole doivent avoir pour réussir dans le domaine du journalisme au Mali. Je vous demande de m'aider à identifier des journalistes au Mali pour répondre à mon questionnaire en cliquant sur le lien suivant :

http://tinyurl.com/3ruy9os

Cette enquête vous prendra approximativement 15 minutes. Je souhaiterais aussi que vous répondiez vous même et que vous encouragiez vos collègues à faire de même. Si vous désirez répondre aux questions en Français au lieu de l'Anglais, cliquez sur le mot « English » dans la fenêtre à l'angle à droite de l'écran pour choisir la langue.

Nous apprécions fortement votre assistance à cette recherche. Si vous avez des questions en rapport avec cette étude vous pouvez me contacter en toute liberté.

Si vous avez déjà passee le message a vos collègues, je vous remercie de votre assistance. Si vous n'aviez pas encore passe cette information, je vous serais reconnaissant de le faire en ce moment. Priere de passer ce courrier a vos collègues journalistes du Mali. Merci.

Assoumane Alhassane Maiga

Graduate Student, Agricultural Communications

maiga@okstate.edu

APPENDIX E

SURVEY INSTRUMENT

English

Consent

Dear Malian Media Professionals,

I need your help! You have knowledge about the competencies that agricultural communications/journalism students should possess to be successful in the journalism field in Mali. Your responses are crucial in helping agricultural communications and journalism educators design curriculum to prepare future agricultural communicators/journalists in Mali. You are one of a limited number of professionals in communications/journalism selected to participate in this research study.

The main purpose of this research study is to determine competencies needed by agricultural communications/journalism graduates in the Republic of Mali. Your responses will provide curriculum content to prepare future students for careers in Mali.

This survey will take approximately 15 minutes to complete. Please answer questions according to YOUR views and opinions. If you are not able to access this survey, please email me at maiga@okstate.edu.

You may choose to withdraw your participation in the survey at any time. Your participation is voluntary and anonymous. In addition, be assured your responses will be treated confidentially. Your responses will be stored in a password-protected computer in 436 Ag Hall, Oklahoma State University, for one year.

By clicking "next" below, you are giving your consent to participate in this research study. The risks associated with this research study are not greater than those ordinarily encountered in daily life. Your immediate response is greatly appreciated.

Thank you for taking the time to complete this survey. If you have any questions about this research study, please feel free to contact me at maiga@okstate.edu or my adviser, Dr. Dwayne Cartmell, at dwayne.cartmell@okstate.edu. If you have questions about your rights as a research volunteer, you may contact Dr. Sheila Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu.

Okla. State Univ.
IRB
Approved 6/22/11
Expires 5/11/12
IRB # AG1129

Sincerely,

Assoumane Alhassane Maiga
Graduate Student, Agricultural Communications

Below is a list of competencies in the area of Malian agriculture. TO THE LEFT, designate your level of competence in each area. TO THE RIGHT, indicate how important the competency is in your professional work.

Competence						Importance				
None	Low	Moderate	High	Very High		None	Low	Moderate	High	Very High
O	O	O	O	O	Describe the agricultural community in Mali.	O	O	O	O	O
O	O	O	O	O	Assess the level of agricultural literacy in Mali.	O	O	O	O	O
O	O	O	O	O	Describe the impact of agriculture upon all Malians	O	O	O	O	O
O	O	O	O	O	Discuss food development techniques in Mali.	O	O	O	O	O
O	O	O	O	O	Discuss food security/sufficiency issues impacting Malian citizens.	O	O	O	O	O
O	O	O	O	O	Describe food and natural resource governmental policies in Mali.	O	O	O	O	O
O	O	O	O	O	Understand the agricultural organization structures for Malian agriculture.	O	O	O	O	O

Below is a list of competencies in the area of agriculture. TO THE LEFT, designate your level of competence in each area. TO THE RIGHT, indicate how important the competency is in your professional work.

Competence						Importance				
None	Low	Moderate	High	Very high		None	Low	Moderate	High	Very high
O	O	O	O	O	Discuss the impact of government and legislative policy upon agriculture.	O	O	O	O	O
O	O	O	O	O	Analyze the public perception of plant and animal food issues.	O	O	O	O	O
O	O	O	O	O	Determine the impact of biotechnology on the world production systems.	O	O	O	O	O
O	O	O	O	O	Understand the impacts and controversies surrounding genetically modified organisms.	O	O	O	O	O
O	O	O	O	O	Discuss environmental/global issues such as global warming and desertification and the relationship of agriculture with those issues.	O	O	O	O	O
O	O	O	O	O	Describe the role agriculture plays in international relations.	O	O	O	O	O
O	O	O	O	O	Discuss the cultural impact of agricultural trade.	O	O	O	O	O

Below is a list of competencies in the area of general communications. TO THE LEFT, designate your level of competence in each area. TO THE RIGHT, indicate how important the competency is in your professional work.

Competence						Importance				
None	Low	Moderate	High	Very high		None	Low	Moderate	High	Very high
O	O	O	O	O	Generate newsworthy story ideas.	O	O	O	O	O
O	O	O	O	O	Use effective nonverbal communication.	O	O	O	O	O
O	O	O	O	O	Know how to use a newswire (Reuters, Associate Press).	O	O	O	O	O
O	O	O	O	O	Describe the ways in which news and other information is disseminated to the public.	O	O	O	O	O
O	O	O	O	O	Compare the effectiveness of various dissemination systems for different messages and audiences.	O	O	O	O	O
O	O	O	O	O	Use a variety of means including print, radio and video to inform the public.	O	O	O	O	O
O	O	O	O	O	Create news stories in multiple formats (i.e. Radio, Television, Newspaper, etc.)	O	O	O	O	O

Competence						Importance				
None	Low	Moderate	High	Very high		None	Low	Moderate	High	Very high
○	○	○	○	○	Compare the effectiveness of various dissemination systems for different messages and audiences.	○	○	○	○	○
○	○	○	○	○	Use a variety of means including print, radio and video to inform the public.	○	○	○	○	○
○	○	○	○	○	Create news stories in multiple formats (i.e. Radio, Television, Newspaper, etc.)	○	○	○	○	○

Below is a list of competencies in the area of layout and editing. TO THE LEFT, designate your level of competence in each area. TO THE RIGHT, indicate how important the competency is in your professional work.

Competence						Importance				
None	Low	Moderate	High	Very High		None	Low	Moderate	High	Very High
○	○	○	○	○	Edit the work of others; accurately proofread a document.	○	○	○	○	○
○	○	○	○	○	Use correct editing marks and symbols.	○	○	○	○	○
○	○	○	○	○	Appropriately cite sources.	○	○	○	○	○
○	○	○	○	○	Determine if a topic would be best written as a news or feature article.	○	○	○	○	○
○	○	○	○	○	Describe the principles of journalism clearly and concisely.	○	○	○	○	○
○	○	○	○	○	Apply reporting and writing skills in a "real word" situation.	○	○	○	○	○
○	○	○	○	○	Critique and edit the layout and design of a publication.	○	○	○	○	○

Below is a list of competencies in the area of writing. TO THE LEFT, designate your level of competence in each area. TO THE RIGHT, indicate how important the competency is in your professional work.

Competence						Importance				
None	Low	Moderate	High	Very high		None	Low	Moderate	High	Very High
○	○	○	○	○	Write using appropriate journalistic style (AP Style).	○	○	○	○	○
○	○	○	○	○	Write using appropriate grammar.	○	○	○	○	○
○	○	○	○	○	Write using appropriate punctuation.	○	○	○	○	○
○	○	○	○	○	Write in appropriate news article format (i.e. inverted Pyramid).	○	○	○	○	○
○	○	○	○	○	Write news and feature stories about agricultural topics.	○	○	○	○	○
○	○	○	○	○	Gather and synthesize information.	○	○	○	○	○
○	○	○	○	○	Write for the Internet.	○	○	○	○	○

Below is a list of competencies in the area of broadcasting. TO THE LEFT, designate your level of competence in each area. TO THE RIGHT, indicate how important the competency is in your professional work.

Competence						Importance				
None	Low	Moderate	High	Very High		None	Low	Moderate	High	Very High
○	○	○	○	○	Interview a source of information for a news story.	○	○	○	○	○
○	○	○	○	○	Apply effective speaking techniques.	○	○	○	○	○
○	○	○	○	○	Use the voice to maintain the interest of the audience.	○	○	○	○	○
○	○	○	○	○	Use appropriate inflections, tone and volume.	○	○	○	○	○
○	○	○	○	○	Converse knowledgeably on different areas in agriculture.	○	○	○	○	○
○	○	○	○	○	Gather and use natural sound to complement a story.	○	○	○	○	○
○	○	○	○	○	Prepare broadcasting pieces in multiple languages	○	○	○	○	○

Below is a list of competencies in the area of technology. TO THE LEFT, designate your level of competence in each area. TO THE RIGHT, indicate how important the competency is in your professional work.

Competence						Importance				
None	Low	Moderate	High	Very High		None	Low	Moderate	High	Very high
○	○	○	○	○	Navigate the Internet; send and receive e-mail.	○	○	○	○	○
○	○	○	○	○	Transfer and download information through a network.	○	○	○	○	○
○	○	○	○	○	Deliver video or audio over the Internet.	○	○	○	○	○
○	○	○	○	○	Operate communication equipments (i.e. recorders, camera, etc.).	○	○	○	○	○
○	○	○	○	○	Understand computer applications.	○	○	○	○	○
○	○	○	○	○	Use Social Media (i.e. Facebook, Twitter, etc.) tools to direct an audience to news content.	○	○	○	○	○
○	○	○	○	○	Operate radio studio equipment such as a sound board.	○	○	○	○	○

Below is a list of competencies in the area of ethics. TO THE LEFT, designate your level of competence in each area. TO THE RIGHT, indicate how important the competency is in

your professional work.

Competence						Importance				
None	Low	Moderate	High	Very high		None	Low	Moderate	High	Very high
○	○	○	○	○	Describe ethical challenges facing journalists.	○	○	○	○	○
○	○	○	○	○	Describe common dilemmas faced by journalists.	○	○	○	○	○
○	○	○	○	○	Discuss ethical standards that exist in the field of journalism.	○	○	○	○	○
○	○	○	○	○	Determine ethical solutions to problems.	○	○	○	○	○
○	○	○	○	○	Discuss legal problems facing journalists.	○	○	○	○	○
○	○	○	○	○	Discuss and define communications regulations and the rights of a journalist.	○	○	○	○	○
○	○	○	○	○	Demonstrate the characteristics of responsibility and credibility.	○	○	○	○	○

What competencies are important to your job but were not asked about in the questions above?

What is your gender?

What is your age?

How many years have you been a journalist?

How many different full-time journalistic jobs have you had in your career (including your current position)?

What is your highest level of education you have completed?

- ○ None
- ○ Fundamental School Diploma
- ○ Vocational School Diploma
- ○ High School Diploma
- ○ Bachelor's Degree
- ○ Master's Degree
- ○ Doctoral Degree
- ○ Other

How would you rate your level of knowledge of the agriculture, food, fiber and natural resources industries in Mali?

List the approximate number of courses you have had in school related to agriculture, food, fiber and/or natural resources.

How many different languages do you speak?

Do you think journalists should speak multiple languages in Mali to be successful?

- ○ Yes
- ○ No

Chers professionnels des media du Mali,

J'ai besoin de votre appui! Vous avez une bonne connaissance des compétences que les étudiants en communication/journalisme agricole doivent avoir pour réussir dans le domaine du journalisme au Mali. Vos réponses à ces questions sont cruciales en vue d'aider les formateurs en communication agricole/journalisme à élaborer un programme de formation des futures communicateurs agricoles du Mali. Vous êtes l'un des rares professionnels de la communication/journalisme à être sélectionné pour participer à cette étude.

L'objectif principal de cette étude est de déterminer les connaissances nécessaires à acquérir par les diplômés en communication/journalisme agricole au Mali, au cours de leur formation. Vos réponses permettront d'avoir un contenu pour un programme de formation afin de préparer les étudiants à leur carrière au Mali.

Cette enquête vous prendra approximativement 15 minutes. Les réponses aux questions doivent refléter vos opinions et points de vue personnels. Si vous n'arriviez pas à avoir accès à l'enquête, prière de m'envoyer un courriel à: maiga@okstate.edu.

Vous pourriez à tout moment décider de vous retirer de cette enquête. Votre participation est volontaire et anonyme. Par ailleurs, soyez rassures que vos réponses seront traitées de façon confidentielle. Vos réponses seront stockées pendant un an dans un ordinateur protégé avec mot de passe et à accès limite se trouvant dans la salle 436 Ag Hall à Oklahoma State University.

En cliquant sur "suivant", ci-dessous, vous donnez votre consentement à participer à l'étude. Les risques courus au cours de cette étude ne sont pas plus grands que ceux ordinairement rencontres dans la vie de tous les jours. Nous apprécions fortement la promptitude de vos réponses.

Merci pour le temps que vous mettriez à participer a cette enquête. Si vous auriez des questions éventuelles en rapport avec cette étude vous pourriez en toute liberté me contacter à mon email mentionne ci-dessus. Si vous auriez des questions s'agissant de vos droits en tant que volontaire à cette recherche, vous pouvez contacter Dr. Shelia Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-3377 ou irb@okstate.edu.

Mes salutations distinguees,

Assoumane Alhassane Maiga
Graduate Student, Agricultural Communications

○ Je suis age de plus de 18 ans. Continuez au questionnaire.

Franç

Ci-dessous se trouve une liste de compétences dans le domaine de l'agriculture au Mali. A GAUCHE, désignez votre niveau de compétence dans chaque domaine. A DROITE, indiquez l'importance de la compétence dans votre travail professionnel.

Compétence						Importance				
Aucune	Faible	Modérée	Elevée	Très Elevée		Aucune	Faible	Modérée	Elevée	Très Elevée
○	○	○	○	○	Décrire la communauté agricole au Mali.	○	○	○	○	○
○	○	○	○	○	Évaluer le niveau des connaissances en agriculture au Mali.	○	○	○	○	○
○	○	○	○	○	Décrire l'impact de l'agriculture sur tous les Maliens	○	○	○	○	○
○	○	○	○	○	Discuter les techniques de développement de l'industrie alimentaire au Mali.	○	○	○	○	○
○	○	○	○	○	Parler de la sécurité alimentaire et des questions d'auto-suffisance alimentaire ayant un impact sur tous les maliens.	○	○	○	○	○
○	○	○	○	○	Décrire l'industrie alimentaire et la politique gouvernementale des ressources naturelles au Mali.	○	○	○	○	○
○	○	○	○	○	Comprendre les structures des organisations paysannes maliennes.	○	○	○	○	○

Ci-dessous se trouve une liste de compétences dans le domaine de l'agriculture. A GAUCHE, désignez votre niveau de compétence dans chaque domaine. A DROITE, indiquez l'importance de la compétence dans votre travail professionnel.

Compétence						Importance				
Aucune	Faible	Modérée	Elevée	Très Elevée		Aucune	Faible	Modérée	Elevée	Très Elevée
○	○	○	○	○	Discuter de l'impact de la politique gouvernementale et législative sur l'agriculture.	○	○	○	○	○
○	○	○	○	○	Analyser la perception du public sur les produits vegetaux et animaux.	○	○	○	○	○
○	○	○	○	○	Déterminer l'impact la biotechnologie sur les systèmes de production mondiale.	○	○	○	○	○
○	○	○	○	○	Comprendre les impacts et les debats sur les organismes génétiquement modifiés.	○	○	○	○	○
○	○	○	○	○	Discuter des problèmes environnementaux comme le réchauffement climatique et la désertification et leurs consequences sur l'agriculture.	○	○	○	○	○
○	○	○	○	○	Décrire le rôle que joue l'agriculture dans les relations internationales.	○	○	○	○	○
○	○	○	○	○	Discuter de l'impact culturel des échanges agricoles.	○	○	○	○	○

Ci-dessous se trouve une liste de compétences dans le domaine de la communication en general. A GAUCHE, désignez votre niveau de compétence dans chaque domaine. A DROITE, indiquez l'importance de la compétence dans votre travail professionnel.

Compétence						Importance				
Aucune	Faible	Modérée	Elevée	Très Elevée		Aucune	Faible	Modérée	Elevée	Très Elevée
○	○	○	○	○	Produire scoops mediatiques.	○	○	○	○	○
○	○	○	○	○	L'utilisation efficace de la communication non verbale.	○	○	○	○	○
○	○	○	○	○	Savoir se servir des informations des agences de presse (Reuters, Associated Press).	○	○	○	○	○
○	○	○	○	○	Décrire la manière dont les nouvelles et autres informations sont diffusées au public.	○	○	○	○	○
○	○	○	○	○	Comparer l'efficacité des différents systèmes de diffusion de messages pour des publics varies.	○	○	○	○	○
○	○	○	○	○	Utiliser une variété de moyens de communication, journaux, radio et television pour informer le public.	○	○	○	○	○
○	○	○	○	○	Traiter l'information pour diffusion sur differents media (exemple:Radio, télévision, journaux, etc)	○	○	○	○	○

Ci-dessous se trouve une liste de compétences dans le domaine de la mise en page et de l'edition (correction). A GAUCHE, désignez votre niveau de compétence dans chaque domaine. A DROITE, indiquez l'importance de la compétence dans votre travail professionnel.

Compétence						Importance				
Aucune	Faible	Modérée	Elevée	Très élevée		Aucune	Faible	Modérée	Elevée	Très élevée
○	○	○	○	○	Editer (corriger) le travail des autres ; reviser correctement un document.	○	○	○	○	○
○	○	○	○	○	Utilisation correcte des signes et symboles d'édition (correction).	○	○	○	○	○
○	○	○	○	○	Citer les sources de facon appropriee.	○	○	○	○	○
○	○	○	○	○	Déterminer si un sujet serait mieux écrit en tant qu'information ou en page magazine.	○	○	○	○	○
○	○	○	○	○	Décrire les principes du journalisme de façon claire et concise.	○	○	○	○	○
○	○	○	○	○	Appliquer les connaissances de reportage et de redaction dans une situation objective.	○	○	○	○	○
○	○	○	○	○	Critiquer et reviser (corriger) la conception et la mise en page d'une publication.	○	○	○	○	○

Ci-dessous se trouve une liste de compétences dans le domaine de la redaction journalistique. A GAUCHE, désignez votre niveau de compétence dans chaque domaine. A DROITE, indiquez l'importance de la compétence dans votre travail professionnel.

Compétence						Importance				
Aucune	Faible	Modérée	Elevée	Très Elevée		Aucune	Faible	Modérée	Elevée	Très Elevée
○	○	○	○	○	Ecrire en utiisant un style journalistique approprie (AP Style).	○	○	○	○	○
○	○	○	○	○	Écrire en respectant les regles de grammaire.	○	○	○	○	○

Compétence						Importance				
Aucune	Faible	Modérée	Elevée	Très Elevée		Aucune	Faible	Modérée	Elevée	Très Elevée
○	○	○	○	○	Ecrire en respectant les regles de ponctuation.	○	○	○	○	○
○	○	○	○	○	Ecrire dans le canevas approprié a la redaction journalistique (exemple: la regle de la pyramide inversée).	○	○	○	○	○
○	○	○	○	○	Rediger des informations et des pages magazines sur des themes agricoles.	○	○	○	○	○
○	○	○	○	○	Rassembler et faire la synthese l'information.	○	○	○	○	○
○	○	○	○	○	Écrire pour publication sur Internet.	○	○	○	○	○

Ci-dessous se trouve une liste de compétences dans le domaine de la radiodiffusion. A GAUCHE, désignez votre niveau de compétence dans chaque domaine. A DROITE, indiquez l'importance de la compétence dans votre travail professionnel.

Compétence						Importance				
Aucune	Faible	Modérée	Elevée	Très élevée		Aucune	Faible	Modérée	Elevée	Très élevée
○	○	○	○	○	Interviewer une source d'information pour produire un article.	○	○	○	○	○
○	○	○	○	○	Appliquer les techniques de l'art oratoire.	○	○	○	○	○
○	○	○	○	○	Utilisez la voix pour captiver l'auditoire.	○	○	○	○	○
○	○	○	○	○	Utiliser correctement les modulations, ule ton et le volume de la voix.	○	○	○	○	○
○	○	○	○	○	Entretenir une discussion soutenue sur les differents domaines de l'agriculture.	○	○	○	○	○
○	○	○	○	○	Recueillir et utiliser des sons naturels pour concevoir un article (audio).	○	○	○	○	○
○	○	○	○	○	Elaborer des sessions de radio diffusion en plusieurs langues	○	○	○	○	○

Ci-dessous se trouve une liste de compétences dans le domaine de la technologie. A GAUCHE, désignez votre niveau de compétence dans chaque domaine. A DROITE, indiquez l'importance de la compétence dans votre travail professionnel.

Compétence						Importance				
Aucune	Faible	Modérée	Elevée	Très élevé		Aucune	Faible	Modérée	Elevée	Très haute
○	○	○	○	○	Naviguer sur Internet, envoyer et recevoir des e-mails.	○	○	○	○	○
○	○	○	○	○	Transferer et télécharger des informations à partir d'un réseau.	○	○	○	○	○
○	○	○	○	○	Diffuser une vidéo ou un audio sur Internet.	○	○	○	○	○
○	○	○	○	○	Utiliser les équipements de communication (exemples dictaphone, caméras, etc.)	○	○	○	○	○
○	○	○	○	○	Utiliser un ordinateur.	○	○	○	○	○
○	○	○	○	○	Utiliser les reseaux sociaux (exemple: Facebook, Twitter, etc) comme outils afin d'orienter le public vers une information.	○	○	○	○	○
○	○	○	○	○	Utiliser des appareils de studio de la radio comme une carte son.	○	○	○	○	○

Ci-dessous se trouve une liste de compétences dans le domaine de l'ethique. A GAUCHE, désignez votre niveau de compétence dans chaque domaine. A DROITE, indiquez l'importance de la compétence dans votre travail professionnel.

Compétence						Importance				
Aucune	Faible	Modérée	Elevée	Très Elevée		Aucune	Faible	Modérée	Elevée	Très Elevée
○	○	○	○	○	Décrire les défis éthiques auxquels sont confrontés les journalistes.	○	○	○	○	○
○	○	○	○	○	Décrire les dilemmes auxquels sont confrontés les journalistes.	○	○	○	○	○
○	○	○	○	○	Discutez les normes éthiques qui existent dans le domaine du journalisme.	○	○	○	○	○
○	○	○	○	○	Trouver des solutions éthiques aux problèmes .	○	○	○	○	○
○	○	○	○	○	Discuter les problèmes legaux rencontrés par les journalistes.	○	○	○	○	○
○	○	○	○	○	Discuter et définir les lois en matiere de communication et les droits du journaliste.	○	○	○	○	○
○	○	○	○	○	Démontrer les aspects de la responsabilité et de la crédibilité.	○	○	○	○	○

Quelles autres compétences sont importantes pour votre travail, mais qui n'ont pas ete l'objet de questions dans cette enquete?

Quel est votre genre?

Quel est votre âge?

Combien d'années d'experience avez-vous dans le journalisme?

Combien de fonctions de journaliste a temps plein avez vous exerce dans votre carriere (y compris votre fonction actuelle)?

Quel est le niveau d'education le plus elevée que vous avez atteint?

- Aucun
- Diplôme d'études fondamentales
- Diplôme d'études professionnelles
- Diplôme d'études secondaires
- Licence
- Maîtrise
- Doctorat
- Autres

Comment évalueriez-vous votre niveau de connaissance de l'agriculture, de l'industrie alimentataire, du bois et des ressources naturelles au Mali?

Donnez le nombre approximatif de cours que vous avez eu à prendre l'école en rapport avec l'agriculture, l'industrie alimentaire et du bois et avec ressources naturelles.

Combien de langues parlez-vous?

Pensez-vous que les journalistes doivent parler plusieurs langues au Mali pour réussir?

- Oui
- N

>

VITA

Assoumane Alhassane Maiga

Candidate for the Degree of

Master of Science

Thesis: COMPETENCIES NEEDED BY UNIVERSITY AGRICULTURAL COMMUNICATIONS GRADUATES IN THE REPUBLIC OF MALI

Major Field: Agricultural Communications

Biographical:

Education:

Completed the requirements for the Master of Science in agricultural communications at Oklahoma State University, Stillwater, Oklahoma in July, 2011.

Completed the requirements for the Bachelor of Arts in English at the University of Bamako/Faculty of Literature, Languages, Arts, and Social Sciences Bamako/Mali in May 2005.

Experience:
Middle high English teacher: from January 1990 to1999
Teacher adviser: from October 1999 to March 2000
English Professor, Interpret: Language Center Bamako from 2005-2009

Professional Memberships:
Member of:
Association of International Agricultural Extension and Education (AIAEE)
American Association Agricultural Education (AAAE)
Agricultural Communicators of Tomorrow (ACT)
International Scholars Honors Phi Beta Delta Epsilon
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Name: Assoumane A. Maiga Date of Degree: July, 2011

Institution: Oklahoma State University Location: OKC or Stillwater, Oklahoma

Title of Study: COMPETENCIES NEEDED BY UNIVERSITY AGRICULTURAL COMMUNICATIONS GRADUATES IN THE REPUBLIC OF MALI

Pages in Study: 100 Candidate for the Degree of Master of Science

Major Field: Agricultural Communications

Scope and Method of Study:
The scope of this study was a snowball sampling of media professionals in the Republic of Mali. The data was collected using an online Qualtrics survey questionnaire.

Findings and Conclusions: This study indicated that more than half of the Malian media professionals (57.7%) were in their mid-career with an age range of 36 to 45, and the majority were male (73.1%). More than half of the media professionals held a master's degree (61.5%). The average professional experience was almost five years (*M* = 4.92). The study included eight constructs. Media professionals responded to seven items, which comprised each construct, and rated their levels of importance and competence related to these items. The Borich (1980) needs assessment model was used in the development of the questionnaire. A mean weighted discrepancy score for each construct was calculated. The constructs were ranked from highest to lowest using the *MWDS*. The construct with the highest *MWDS* was the most important area for curriculum development for agricultural communications programs in the Republic of Mali. "Layout and Editing" had the highest *MWDS* (3.09) and "Malian agriculture" had the lowest *MWDS* (-.155). The rest of the constructs scores were as follows: "Broadcasting" (*MWDS* = 1.95), "Ethics" (*MWDS* = 1.57), "Knowledge of agriculture" (*MWDS* = 1.52), Technology (*MWDS* = 1.13), and "Writing" (*MWDS* = 1.10), "General communications (*MWDS* = .95). Based on the findings of this study, a curriculum of agricultural communications in universities in Mali should be developed primarily in the following areas: layout and editing, broadcasting, ethics, agriculture, use of technologies, and writing.

ADVISER'S APPROVAL: Dwayne Cartmell, PhD