

12-1-2018

Haitian Faculty Perceptions of Students' Competence at Graduation: An Opportunity for Curriculum Modification

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Recommended Citation

Pierre, A., Calixte, M. C., Moore, K., Bunch, J. C., & Roberts, T. G. (2018). Haitian Faculty Perceptions of Students' Competence at Graduation: An Opportunity for Curriculum Modification. *Journal of International Agricultural and Extension Education*, 25(3), 20-32. DOI: <https://doi.org/10.5191/jiaee.2018.25302>

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Keywords

Haiti, agriculture, extension, post-secondary education, research

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doi: 10.5191/jiaee.2018.25302

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Abstract

The contribution of agricultural universities to long-term food security in developing countries is widely acknowledged. The extent to which these universities in each country are helping students develop the requisite competence to meet employment needs is unknown. The purpose of this study was to explore Haitian faculty members' perceptions of student competence at graduation. Semi-structured interviews were conducted with 37 lecturers who taught at five of the major agricultural universities in Haiti. The results of this revealed that (a) the employment conditions for university graduates were challenging; (b) faculty did not believe it was important for their students to graduate proficient in all the GFRAS New Extensionist competency areas; (c) faculty believed students should have research skills, the ability to be self-directed, and the ability to work in teams; and (d) faculty generally believed their institutions were producing graduates with the competencies needed for employment, although several lecturers identified specific areas for improvement. Recommendations for curricula reform and additional research are suggested.

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Introduction

Food security exists when all people, at all times, have physical and economic access to safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO, 2003). This definition integrates the production aspect of the issue as well as the distribution and accessibility levels. On the productive side of food security, emphasis is given to agricultural and rural development, as it has been reported that 70 to 75% of the poor and hungry live in rural areas (FAO, 2002). Based on the Global Hunger Index for 2016, Haiti is unable to feed all its people. Haiti's hunger index severity is alarming, the only country in the Latin American and Caribbean region in such critical position (von Grebmer et al., 2016).

The act of farming is a core strategy against food insecurity since it is the main source of food production and provides rural employment in many developing countries. However, improvements in agricultural production and productivity depends on the farmers having access to factual information and education. This means extension educators, researchers, and professionals in agriculture must strengthen their knowledge generation and dissemination capacity (FAO, 2002).

Although extension education is crucial for rural development, many universities in developing countries fail to address extension competencies in their curricula, concentrating primarily on the scientific and technical skills (van Crowder, Lindley, Bruening, & Doron, 1998). The universities in these countries have generally failed to integrate and connect extension education to relevant research and educational programming (van Crowder et al., 1998). Given the important roles universities can play in long-term food security, it is relevant to examine if Haitian agricultural universities are providing graduates with the

requisite competence to be successful, especially related to extension education and research.

Literature Review

Employers identify the role of higher education as developing potential employees with the skills needed for success, however, universities are often unaware of employer expectations (Bennett, Dunne, & Carré, 1999). In some cases, universities have reached an understanding of the importance of these employer stakeholders, as well as the importance of students' employability (Harvey, 2000). Although, there is confusion about what those skills should be, employers' expectations lack clarity at times. For example, terms such as transferable, core, or generic skills have been used by employers (Bennett et al., 1999). The adjectives used to describe skills used by employers can make a difference for any graduate seeking to enter an increasingly competitive workforce (Harvey, 2000). However, there seems to be an emerging consensus in the literature about what these core competencies should be. The competencies most identified were (a) self-management (Bennett et al., 1999), (b) communication, (c) teamwork, and (d) interpersonal skills (Harvey, 2000; Sondergaard, Murthi, Abu-Ghaida, Bodewig, & Rutkowski, 2012).

Apart from core competencies, graduates need career-specific competencies that will enhance their competitiveness in today's workforce (Bennett et al., 1999). As a result of identified clear career-specific competencies, agricultural colleges can focus on teaching these specific competencies necessary for professionals in the agricultural sector. It has been identified that extension services are an important contributor to agricultural productivity (FAO, 2002). Extension services, also known as rural advisory services, use a

variety of activities to provide farmers, their families, and other stakeholders key services to improve their livelihoods (GFRAS, 2012). Recognizing the importance of extension organizations, and more specifically the individuals who work in these organizations, GFRAS (2016) developed a set of competencies they deemed important for the *New Extensionist*. These competencies were grouped in the categories of (a) adaption to change, (b) adult learning, (c) agricultural entrepreneurship, (d) agricultural systems, (e) behavior change, (f) communication, (g) community organizing, (h) critical thinking, (i) gender issues in agriculture, (j) leadership; professional ethics, (k) program implementation, (l) program monitoring and evaluation, (m) program planning, and (n) youth issues in agriculture.

Haitian extension services are often limited to transfer of knowledge to farmers and management skill development of farmers as reported by the Ministry of Agriculture, Natural Resources, and Rural Development (MARNDR). The MARNDR has identified nine areas for extension services, eight of which are technical agriculture science and one related to transfer of managerial skills (Arias, Leguía, & Sy, 2013). The public sector is the main provider of extension services in Haiti through the MARNDR and its auxiliary research and education institutions (Arias et al., 2013; GFRAS, n.d.). In addition to MARNDR, there are various NGOs, some private sector firms, and a few farmer-based organizations and cooperatives (GFRAS, n.d.). The level of extension received depends on a few factors such as (a) geographical area, (b) the educational attainment of farmers, and (c) the size of farm (Arias et al., 2013).

Anecdotal evidence suggests a large number of graduates from the Haitian agricultural universities seek employment in

jobs that require application of technical, extension, and research skills. It is, however, unclear if students are graduating with the skills needed for success. The existing literature is dated and does not address this question. As such, this study aims to answer this question by exploring Haitian faculty members' perceptions of student competence at graduation.

Theoretical Framework

This study used a competency-based theoretical framework. Competency is a person's ability to carry out any activity based on life experience and acquired knowledge and skills (Makulova, Alimzhanova, Bekturganova, Umirzakova, Makulova, & Karymbayeva, 2015). This framework rests on the concept of skills in the context of higher education, which is a term often used interchangeably with competencies and capabilities (Washer, 2007). Tribe's (1996) meta-analysis of skills in various educational organizations showed the commonalities between what would be considered core skills. The core skills identified were (a) communications, (b) numeracy and information technology skills, (c) interpersonal, and (d) problem-solving skills. What is more, Washer (2007) purported that core competencies or skills links teaching curricula to employability. This is why it is important for higher education institutions to work closely with employers to ensure graduates exit the institution fully competent to enter the workforce.

Extension education and advisory services have their own required set of skills and competencies. Upon recognition of the importance of extension in agricultural development, it has become crucial to determine what these skills may be for graduates in the agricultural fields.

GFRAS's *New Extensionist* competencies were used as the frame to examine teachers'

perception of students' levels for extension competence (GFRAS, 2016).

Purpose

The purpose of this study was to explore Haitian faculty members' perceptions of student competence at graduation. Four research questions guided this study:

1. What are the current employment conditions for graduates from Haitian agriculture universities?
2. To what extent do faculty perceive that graduates need the GFRAS *New Extensionist* competencies?
3. What other competencies do faculty perceive graduates need?
4. How do faculty perceive the effectiveness of their institutions at developing the competencies needed by graduates?

Methodology

This research study is part of a larger project funded by USAID and approved by the University of Florida IRB. To address the research questions, we used a basic qualitative design (Flick, 2007) with semi-structured interviews. The interview guide was developed by the research team and included nine open-ended questions and one question addressing the GFRAS (2016) *New Extensionist* competency areas. The guide was reviewed by a panel of education experts and experts familiar with Haitian higher education. The guide was developed in English, translated to French, and then back-translated to English to ensure the original meaning was maintained. The instrument was pilot tested with a few Haitian faculty and slight adjustments were made.

Participants

We employed a snow-ball sampling method to identify faculty working at the five major agricultural universities in Haiti.

The universities included in this study were (a) Université d'Etat d'Haiti - Faculté d'Agronomie et de Médecine Vétérinaire (FAMV), (b) American University of the Caribbean (AUC), (c) Université Caraïbe (UC), (d) Université Notre Dame d'Haïti (UNDH), and (e) Université Quisqueya (UNIQ). Initially, the Deans at each university identified a few faculty to be interviewed. At the completion of each interview, the interviewee was asked to identify additional faculty. Participants were recruited until we achieved redundancy in the data. In total, we interviewed 37 lecturers, 11 from FAMV, nine from UNDH, nine from UNIQ, seven from AUC, and one from UC. An exact population frame was not available, but based on numbers reported by the Deans, there were 277 total agriculture faculty in Haiti, with only 61 faculty employed full-time. Many faculty work at multiple universities, and our interviewees were no different. We had 12 who worked for a single university, 13 who worked for two, nine who worked for three, and three who worked for four. Our respondents were 75% male and 30% held administrative duties beyond their teaching roles. Participants were assigned a code number based on the order they were interviewed.

Data Collection

Interviews were conducted face-to-face in French by the lead researcher. The locations for the interviews were selected by the participants. The entire interview lasted about 60 minutes, and 30 minutes of the interview was dedicated to this particular study. The lead researcher, the interviewee, and a research assistant were present at all interviews. During the interview, the research assistant took detailed notes and the interview was audio recorded verbatim. Following each interview, the lead researcher created a detailed case file using

the audio recording. The research assistant reviewed each case file for accuracy using detailed interview notes and adjustments were made as necessary.

Trustworthiness

Multiple steps were implemented to ensure trustworthiness of the research study. We kept an audit trail and used regular peer-debriefing sessions between the lead researcher in Haiti and the project leader in the U.S. (Lincoln & Guba, 1985). We employed member-checking by allowing participants to review their case files (Merriam, 1998). We established dependability by using multiple coders to verify accuracy (Lincoln & Guba, 1985). We also translated and back-translated our instrumentation to ensure accuracy. We describe our participants as much detail as possible while still maintaining their anonymity (Lincoln & Guba, 1985).

Data Analysis

Data were analyzed using a basic thematic analysis with line-by-line coding (Gibbs, 2007). For questions 1, 3, and 4 a constant comparative method (Glaser & Strauss, 1967) was used to establish themes and sub-themes. For question 2, the GFRAS (2016) *New Extensionist* competency framework was used to categorize responses. Data analysis was completed by the leader researcher in French and then results were translated to English. To establish dependability (Lincoln & Guba, 1985), ten case files were translated to English and then analyzed by an American member of the research team. Those results were compared to the results from the French analysis and accuracy of the analysis and translation was verified.

Subjectivity Statement

This research was part of a USAID project and this particular study was

designed, implemented, and written by a large team of researchers. Collectively, the research team recognizes the value higher education institutions in Haiti have toward establishing long-term food security in the country. The lead researcher is a Haitian employed by the project. He had previously worked at one of the universities and had previously conducted research on the higher education system in Haiti. The team also includes three American researchers and a Haitian graduate student studying in the U.S. Only the lead Haitian researcher and one American researcher contributed to data analysis and conclusions. The remaining research team critically reviewed the results to minimize the impacts of individual biases.

Findings

Employment Conditions

Employers. Graduates from the five major agriculture institutions in Haiti work for NGOs and international organizations, public and private sectors, with most working for NGOs and international organization (P001; P007; P008; P015; P021). Employment in the public sector is mainly with MARNDR, but a few graduates went to work in the Ministry of Environment and the Trade Ministry (P008). Historically, FAMV and MARNDR had a very strong relationship and graduates from FAMV were automatically hired by this ministry (P015; P007). Now, the close relationship between both institutions for graduates no longer exists (P015). P015 shared that until 1987 it was like an obligation for MARNDR to employ FAMV's graduates (approximately 30) because it was the only college of agriculture in the country. P011 thought it is not difficult for graduates from his institution to find a job. They work for the government, particularly MARNDR, they create their own business, or they are

working for NGOs and international organization.

Job market. Many universities in Haiti have recently added agriculture programs at their institutions (P001, P009). Consequently, there are more graduates in agriculture fields than ever before and competition for every open job is very high (P001, P009). There appears to be more graduates than there are jobs (P001, P009). Further complicating the situation, since MARNDR quit automatically hiring graduates from FAMV, graduates from this institution are having challenges finding jobs (P007). P001 perceives enhancing the skills of graduates in non-technical areas like communication can help improve their employability (P001). It was also noted that graduates lack practical skills. They are much better in theory than in practice (P001).

Timing. According to interviewees, finding employment for graduates may take six months to three years (P030; P027; P007; P013), with most finding their first job in less than two years (P033; P034; P037; P028; P031; P022; P001). The more talented students often find a job right after completing an internship, during the time they should be preparing to graduate. This means some do not finish their final project before being hired and do not finish their degree (P008, P036).

Social capital. In the city of Les Cayes, social capital plays a large role in assisting graduates find a job (P023; P024; P034; P026). The famous Haitian Creole saying *kolonn ki bat* (networking is the key way to have a job) was mentioned by many interviewees (P023; P024; P034; P026). P024 summed it up:

In Haiti it is a question of social network (*Kolonn ki bat*). At the contrary, we stay on ground (on the floor), without a job. Those who do not have a social network do not find

a job. Some do not even look for, ask or do any effort.

This was also mentioned by P011, P008, P002, P003, and P004. According to P002, some students' lack of capacity to network in a market tainted by the clientele phenomenon further complicate the situation. P004 said graduates are technically good, but cannot find a job due to lack of opportunities. This interviewee insisted that to find a job students need to develop their human potential and their interpersonal relationships. Yet, for him, these are the characteristics the students have neglected during their time at college. Having good grades is important, but it is necessary to be able to develop social networks (P004).

First job duration. The length of time graduates stay in their first job is not easily determined. Most of the interviewees perceived the type of jobs graduates take (government vs. temporary, etc.) makes a difference (P008; P001). In NGOs, graduates often have a short-term contract ranging from six months to five years, depending on the duration of the project (P001; P007; P014; P020; P029). In contrast, if they work for the government (not on a special project) their length of employment is not defined (P001). Graduates may also leave their first job because of a new job that offers them a better pay (P008; P036). Finally, many graduates would like to further their education with a master's degree or a Ph.D., so they may stay in a job for a short duration until they can secure a scholarship to fund their schooling (P008; P036).

Employment qualifications. A competitive job market has led to many graduates taking jobs that do not match their degrees. For example, P009 perceived graduates do not get jobs that match their qualifications. P003 went further, saying very few of them have a job that matches

their qualifications. It is common to find a graduate working in a field which is not agriculture (P004). In Haiti, they say that *agronomy leads to all* (in French: *L'agronomie mène a tout*) (P012). Therefore, it is not a surprise to see an agronomist as the owner of a gas station (P012). Some graduates work in the social science fields like teaching at the secondary level (P008). Others are even working for the Ministry of Public Construction, Transport and Communication (P004). Graduates in environmental science face more challenges in finding employment (P005). However, some of their interdisciplinary courses do help prepare them for employment outside of agriculture or environmental positions (P007). As an example of the employment challenges in the Haitian agricultural sector, P001 shared it would not be surprising to find an agricultural technician with a better job than an agronomist and someone with a bachelor's degree to have a better job than someone with a master's degree. There are no guarantees that graduates will find jobs that match their qualifications or career goals (P001).

Career advancement. Several interviewees commented on skills and competencies graduates needed to advance in their careers (P001; P001; P019; P022, P027; P037). P001 said they need to have good knowledge of the different regions of the country and have a basic knowledge in agronomy. P001 proposed it is important for them to understand the labor market and have good communication skills. P002 insisted mastering additional languages, like English, is vital for career advancement.

Extension Competence

Adaption to change. Adaptation to change was viewed as important by many interviewees. According to P011 adaptation to change is the most important skill for

students to learn to be able to conduct both extension and research activities. P002 discussed the importance of mastering skills regarding the role of agricultural extension in time of innovation and development. Other interviewees called adaptation to change as very important (P010) and a "key competency" (P036).

Adult learning. Interviewee opinions about the importance of adult learning were mixed. P011 said it was of little importance. While P036 thought it was a key competency for someone working in agricultural extension. P007, P001, P014, and P015 thought that understanding adult learning is important.

Agricultural entrepreneurship. Agricultural entrepreneurship was important to many of the lecturers interviewed. P002 expressed his opinion using the phrase "the promotion of the agricultural business spirit." P032 thought that agricultural entrepreneurship is the most important for graduates to know if they want to do research and extension and they must learn this competency in the rural context. P029 believed that agricultural entrepreneurship is a key competency needed to work in research and extension. Other interviewees just stated agricultural entrepreneurship was very important (P011) or important (P010).

Agricultural systems. An understanding of the agricultural system was viewed as very important to many interviewees (P010; P011). The importance of sound technical knowledge of agricultural systems was viewed as important by many interviewees (P008; P010; P011). P007 described this as a *practitioner* with a lot of experiences. P011 talked about being sound in both theoretical and practical skills. P002 thought it was important for graduates to be able to provide answers about certification of the norms and regulatory systems in Haiti. P029 thought an understanding of the agricultural system was critical to work in

agricultural extension or research. P001 and P009 also talked about the importance of understanding the context. Graduates should also have an understanding of the rural areas and be willing to work in these. P013 echoed this by saying it is important for graduates to master the local social aspect of the area. It was noted by P004 that grades alone are not sufficient for success.

Behavior change. Behavior change was not mentioned by many of the interviewees, but some perceived it was relevant to working in extension in Haiti. P009, P010, P019, P025, P030, P033, and P026 called it very important. P036 believed behavior change was one of the key competencies need by graduates to work in extension. For P013, P024, P034, P016, and P028, it was just important.

Communication. Communication skills are critical for graduates in agricultural and environmental programs in Haiti (P036; P010; P011). For P031 communication is the most important skill needed by graduates. P002 emphasized the importance of being able to effectively use information and communication technologies. As a country with several common languages, the importance of communicating in different languages was also deemed important. P002 thought it was important to speak both Haitian Creole and French. P011 was more certain about the importance of speaking English. In addition to oral communication, graduates should have the ability to write (P001, P009).

Community organizing. Several interviewees discussed the importance of understanding and working at the local level. P001 talked about the importance of reinforcing of organizational capacity at the local level to help diffuse new production methods. P002 mentioned the importance of being able to build local capacity to adapt in times of risk and uncertainty. P037 thought that community origination is the most

important in terms of research and extension for graduates to know. P026, P024, and P025 thought it was very important. For P023, it was just important for the students to know.

Critical thinking. Critical thinking and problem solving were viewed as important by many of the interviewees (P010; P001; P002; P013). However, at least one interviewee (P011) thought it was less important. Critical thinking was often expressed in terms of solving problems. P001 and P002 believed all graduates should be able to solve problems. They should be able to observe their surroundings and gather data to make decisions (P001; P006). When necessary, they should be able to innovate to solve problems (P013). P010 elaborated on how he teaches critical thinking. He might present five ideas to the students or show them five different ideas and let them evaluate the situation to select the best choice. He then taught them to critique their own ideas. Related to critical thinking, P012 thought creativity is important for graduates.

Gender issues in agriculture.

Gender issues received mixed opinions from interviewees. P010 thought it was important for graduates to have. P011 perceived understanding gender issues was second only to adaptation to change in terms of importance for graduates to learn. In contrast, P032 thought gender was a nonissue. For him, young females and males are equal and there should not be discrimination based on gender. He believed that because his institution has many female students, males and females learn to accept each other and work closely together. P036 did not explicitly say if it was important for graduates to understand gender issues, but he did not think it was the responsibility of his institution to help graduates or develop competencies.

Leadership. Many interviewees expressed the importance of leadership. Two interviewees (P010; P011) said all graduates should be leaders. P020 said that being an agronomist is being a leader. P032 talked about the importance of leadership and how it transcends both the personal and professional lives of graduates. Leadership helps a professional to be fair and resolve conflict (P032). Ultimately, it benefits the communities in which the graduates work (P032).

Professional ethics. Having professional ethics was deemed as very important by many of the interviewees (P010; P011). P001 thinks that honesty, respect, responsibility, inclusion, transparency and integrity are critical for graduates. In Haiti, she explained that they do not put enough emphasis on those values (P001). Therefore, she (P001) suggested it is important to integrate them across the curriculum. P002 agreed about teaching professional ethics. However, he (P002) perceived the education system in Haiti no longer stresses ethics. He (P002) insisted “we are living in a society in disguise. People do not follow a logical path in their actions. They tend to give up the ethical values.” P002 also mentioned that teaching ethics falls on the parents and in many cases, this has not happened. P036 reflected on his own teaching experiences and discussed how he stressed ethics. He (P036) connected professional ethics to morality and religion and the spiritual consequences of not being ethical.

Program implementation. Program implementation was mentioned as important by many interviewees (P010; P030; P033; P034). P008 and P011 see it as very important. P001 elaborated that to successfully implement programs, graduates need to understand the reality at the local level. It is very important for graduates to implement a program (P030). However,

P015 thinks this competency was a little less important for graduates to know.

Program monitoring and evaluation. Program monitoring and evaluation was viewed as an essential competency to several interviewees. P010 and P020 called it important. P011, P008, and P030 were more positive and called it very important. This is the same case too for P008. P034 thinks that it just important. P015 saw it as less important.

Program planning. The importance of program planning was viewed with mixed opinions by interviewees. P010, P020, P034 called it important, while P011, P008, and P030 said it was very important. P015 saw it as less important.

Youth issues in agriculture. Interviewees had conflicting opinions about the importance of graduates understanding youth issues in agriculture. P030 and P031 perceived that it is a very important topic. P010, P034, P008, and P011 thought it was important. For P015 and P032, it was less important. P036 did not perceive it was the responsibility of his institution to help graduates develop this competency.

Other Competencies

Research. Research skills were mentioned as important by several interviewees. P014 said graduates need to be able to implement appropriate research methods to solve problems they face. P002 emphasized the necessity to be able to select appropriate methods and tools to touch their audience in a specific context. He (P002) also went on to say that graduates need skills in applying the results of technical research. Communicating the results of research in ways understood by lay people was deemed important (P008; P001).

Self-directed and flexible. Graduates should be able to work independently (P001; P009). They should be disciplined in their work and work habits

(P009). P013 discussed the ability to fully implement project. Two interviewees emphasized graduates needed the ability to be flexible and work on several things at the same time (P006; P018).

Teamwork. Two interviewees discussed the ability to work in teams as being important (P004; P013). For example, P003 talked about the need to develop networks. Interpersonal skills were seen as important (P004). Graduates should be able to cooperate with people in different positions of authority (P012).

Personal traits. Several personal traits were motioned as important. Two interviewees said graduates should have good self-awareness (P003; P004). Other suggested traits included being dynamic (P012), being patient (P012), and being aggressive (P012).

Institutional Effectiveness

Graduate preparedness. Most of the interviewees think their institution is doing a good job in teaching skills and competencies that graduates need to succeed, but there are some opportunities for improvement (P001; P002; P010). P001 and P002 recognized their institutions do not do enough to help the students prepare for jobs. P036 reported his graduates are not prepared in community organization, gender, or youth issues in extension. However, they are excellent in communication. P008 looked at these issues on a broader level and said Haitian society, in general could be doing a better job preparing young people for careers.

Teaching extension. None of the institutions had courses focused exclusively on extension methods. Extension competencies were generally integrated in to existing courses (P011). P001 referenced courses like rural sociology, agricultural climatology, geographic information system, and remote sensing as having extension

competencies integrated. P001 went on to say that although students get some skills, her institution had not placed enough emphasis on the teaching of extension methods. The rural sociology course is the only one that can help the students develop a better understanding of the rural areas (P001). Field trips may also help students develop extension skills (P001). P010 specifically noted a deficiency in leadership and communication skills taught at his institution. P010 went on to say his institution does not specifically teach topics such as adapting to change, adult education, behavior change, communication, the problems related to gender, or youth in agriculture. He did, however, acknowledge many of these competencies might be addressed during internships and field experiences. P010 shared he teaches a plant pathology course that helps students learn some extension skills. His examples of activities would primarily fall in the agricultural systems competency area focused on analyzing and diagnosing plant diseases. At least one interviewee (P011) did not think it was the responsibility of his institution to teach all the extension competencies. He specifically said they do not teach adult education, community organization, critical thinking, or professional ethics.

Teaching research skills.

Institutions had courses focused on teaching research skills. P001 said they have a course in their core curriculum focused on *scientific investigation and experimentation*. The professor in this course uses problem solving and decision-making approaches as teaching methods to help students learn to solve complex research problems. P010 elaborated more on his plant pathology course. His course teaches students to have a good sense of observation, the ability to establish the difference between a healthy and a sick plant, and to have an open-mind

to be able to build hypothesis. According to P010, this course is so important that it should be taught to all FAMV students in all options as part of the core curriculum of their first year. For P021, the biometry or biostatistics course is the one which prepares his students to do research. He was confident his students have the theoretical background to initiate research projects. P011 also thought the biostatistics course was a great way to teach research skills.

Conclusions, Recommendations & Implications

Our results allow for several conclusions to be drawn based on the perceptions of the Haitian faculty members who participated in the research. First, employment conditions for university graduates are challenging. It typically takes graduates several years to find employment and they often work on jobs unrelated to their degrees. There appears to be a surplus of graduates. NGOs and international organizations are the largest employers, but these are often short-term positions. Graduates with social networking and communications skills have an advantage finding positive employment. Previous research on the employment conditions for agricultural graduates in Haiti could not be found, so our results provide a baseline for future research. The discovery of the importance of social networking and communication skills is consistent with the previous work in other parts of the world by Harvey (2000) and Sondergaard et al. (2012). Haitian universities should consider making changes to help students learn to establish social networks and develop communication skills better.

Second, Haitian faculty did not perceive it was important for their students to graduate proficient in all the GFRAS *New Extensionist* competency areas. The competency areas sorted in to three groups,

most important, somewhat important, and not too important. They believed the most important competency areas were (a) adaption to change, (b) agricultural systems, (c) communication, (d) professional ethics, and (e) program monitoring and evaluation. Faculty also expressed it was somewhat important for students to be proficient in (a) agricultural entrepreneurship, (b) behavior change, (c) community organizing, (d) critical thinking, (e) leadership, (f) program implementation, and (g) program planning. The least important competency areas were: (a) adult learning, (b) gender issues in agriculture, and (c) youth issues in agriculture. A recent related study (Albert, Roberts, & Harder, 2017) examined this from a quantitative perspective and showed similar results, with the exception of adaptation to change (more important in this study), program implementation (more important in the other study), and behavior change (more important in this study). Both studies showed low importance for (a) adult learning, (b) gender issues in agriculture, and (c) youth issues in agriculture. Additional research should examine the relevance of the GFRAS competencies in the Haitian context. Other research in the Caribbean (Harder, Ganpat, Moore, Strong, & Lindner, 2013) had previously identified program planning and evaluation as a high-need opportunity for professional development for extension officers. Haitian universities should examine their curricula to ensure the most important competency areas are addressed in existing courses or consider developing new courses focused on extension methodologies. Harder et al. (2013) used a much more detailed assessment of extension competency, with 38 specific skills. This could be replicated in Haiti to provide even greater information for curricula modification.

Third, Haitian faculty identified several additional competency areas that

students should possess by graduation. These included (a) research skills, (b) the ability to be self-directed, and (c) the ability to work in teams. These findings are consistent with previous research in other contexts, so it appears Haiti is similar to other developing countries. Specifically, van Crowder et al. (1998) noted the importance of graduates having scientific skills, Bennett et al. (1999) identified the importance of graduates being self-directed, and the ability of graduates to work in teams was mentioned by Harvey (2000) and Sondergaard et al. (2012). Haitian universities should examine their curricula to determine if these competency areas are adequately addressed.

Finally, Haitian faculty generally perceived their institutions are producing graduates with the competencies needed for employment, although several faculty identified specific areas for improvement. All the universities had courses focused on research, but none had courses specifically focused on extension methodologies. Instead, faculty perceived many of the extension competencies were imbedded in other courses. It is important to note that these results are just perceptions of the faculty, not an actual indication of student competence and performance in the workplace. Bennett et al. (1999) had previously noted the discrepancy between university and employer expectations for graduates. Additional research should examine this from the perspective of employers and from students, thus triangulating the results.

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