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AIAEE

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Articles intended for publication should focus on international agricultural education and/or international extension education. Articles should relate to current or emerging issues, cite appropriate literature, and develop implications for international agricultural and extension education. **Manuscripts, or portions of manuscripts, must not have been published or be under consideration for publication by another journal**. Three types of articles are solicited for the *JIAEE*: Feature Articles, Tools of the Profession Articles, and Book Reviews.

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U.S./World Representatives

From the Executive Editor

I am honored and excited for my new role as the executive editor for the *JIAEE*. We recently participated in the annual AIAEE conference in Portland, USA. It is always inspiring to learn the innovative agricultural and extension education inquiries that were and are being conducted around the world. I do hope that authors think about expanding their abstracts into manuscript submissions for the *JIAEE*. There are many examples of high quality scholarship that gets presented at our annual conference but does not get formatted and submitted to the *JIAEE* for review. I encourage all presenters to review the submission guidelines and format your scholarship for potential publication in the *JIAEE*. Submission guidelines are located at: https://aiaee.org/index.php/submission-guidelines.

A commentary and five feature articles are included in the first issue of Volume 23. The commentary shares to how the Global Forum for Rural Advisory Services (GFRAS) plan to address the United Nation's Sustainable Development Goals. The first feature article offers an historical inquiry that described the impact of decentralization on Mexico's national agricultural extension system. The second article identifies university student and faculty needs, barriers, and expectations of international efforts and opportunities at the University of Arkansas. The third piece provides a better understanding of the student participants' motivations to partake in a short-term study abroad experience. The fourth feature article provides an evaluation of the impact of agricultural teachers on a rural community in Australia. The final article focuses on the self-efficacy and adoption of ICTs tools by new extension officers in Trinidad and Tobago. I hope you discover the diversity of scholarship in this first issue to be informative and advancing our literature to meet both the needs of scholars and practitioners.

Sincerely,

Robert Strong Jr.
Executive Editor, *JIAEE*

Commentary

**How Will Extension Contribute to the Sustainable Development Goals?
A Global Strategy and Operational Plan**

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Abstract

Extension remains a critical institution for supporting rural livelihoods and the Sustainable Development Goals. The Global Forum for Rural Advisory Services (GFRAS) recently launched a ten-year strategic framework and five-year operational plan, both aligned to the Sustainable Development Goals. The strategy was developed using a series of online and face-to-face consultations within the Forum, with expert feedback at various stages. Using both an agricultural innovation systems and a capacity development framework, the strategy outlines strategic fields of action at three levels – individual, organizational, and system. The strategic fields of action include advocacy and support for increased investment in extension; professionalization; and knowledge generation and exchange. Activities in each strategic field will strengthen capacities at the three levels. For each strategic field, there are expected high-level strategic outcomes (changes in behavior) to which GFRAS will contribute. The strategy is accompanied by a five-year operational plan, which guides the GFRAS community on how to implement the strategic framework. Though these documents, GFRAS can effectively support the international extension community to contribute to the Sustainable Development Goals.

Key Words: extension, advisory services, sustainable development goals, strategy

Introduction

Extension remains a critical institution to meet the new Sustainable Development Goals and ensure productive and fulfilling lives for farmers and other rural dwellers. The Global Forum for Rural Advisory Services (GFRAS) has become a globally-recognized body advocating for and supporting extension since its inception in 2010. The GFRAS is mainly composed of regional-level networks, national forums, and universities and other organizations working in extension.

The GFRAS had an initial strategic plan for the years 2010-2015. However, it is useful to revisit and revise organizational strategies on a periodic basis and in response to changing circumstances. The new strategy is timely because the Millennium Development Goals expired in 2015. In 2012 at the Rio+20 event, United Nations member states agreed to develop a set of Sustainable Development Goals (SDGs). The SDGs provide 17 goals and 169 indictors to frame and measure the global development agenda over the next 15 years. They focus on eradication of poverty while sustainably using natural resources and addressing issues of gender equality and empowerment (United Nations, 2015). The Global Forum for Rural Advisory Services believes that extension has a critical role to play in all of these areas. Thus in line with this agenda, GFRAS has produced a ten-year strategic framework for the period 2016-2025.

The strategy is accompanied by a five-year operational plan. This is a medium-term document that guides the GFRAS community on how to implement the strategic framework. The operational plan provides a robust framework to accomplish and measure the organizational goals identified in the GFRAS strategic framework (Global Forum for Rural Advisory Services, 2016).

Theoretical Framework

Agriculture is critical to the lives of over half a billion rural people, and extension and advisory services are one of the main institutions who support these people with advice and other services. However, extension faces many challenges to supporting rural people to improve their lives. As a result, scholars have advocated for strengthening the capacities of extension at the individual, organizational, and system level to ensure relevant, efficient, effective, and sustainable services (Davis & Sulaiman, 2014).

Agricultural innovation systems are the set of inter-related actors who contribute to agricultural innovation processes. The innovation systems also include the interactions between these actors and the institutions (rules of the game) that govern their interactions (Spielman, 2005).

Using an agricultural innovation systems approach rather than the outdated linear approach to development has major implications for extension's role and capacities. In addition to traditional functions such as promoting technologies, giving demonstrations, and teaching farmers, in an innovation systems perspective, extension agents are must facilitate interactions with market actors and manage innovation platforms (among other roles) (Davis & Sulaiman, 2014). New roles mean new capacities (skills and abilities to perform their job).

The *new extensionist* document lays out the roles, capacities, and strategies needed for extension to effectively fulfill its role in agricultural innovation systems (Davis and Sulaiman, 2014). Using a conceptual framework developed by the Food and Agriculture Organization (2010), the new extensionist calls for strengthening capacities at the individual, organizational, and system levels. The new GFRAS strategy is rooted in the same conceptual framework

of agricultural innovation systems and capacity development at these three levels.

Purpose and Objectives

The GFRAS Strategic Framework 2016-2025 is targeted at the GFRAS community, which includes regional networks, thematic working groups, funders, members, and individual affiliates. The document presents the framework through which GFRAS aims to fulfill its vision and mission for the period. It explains why GFRAS was created, why a new strategy is needed, what the forum wants to achieve, and how this will be done (Global Forum for Rural Advisory Services, 2015).

GFRAS seeks to create impact at the farmer level through its regional networks and country forums. The new strategic framework, accompanied by a five-year operational plan, will allow the forum to plan and measure change, learning, and progress in extension and advisory services reform over the next ten years.

Methods

The GFRAS steering committee wanted the regional networks and other members and affiliates to have a strong voice in and ownership of the strategy, rather than to lead a process that was biased toward the GFRAS secretariat or the forum's donors. Thus the strategic framework was produced through a series of demand assessments within the GFRAS network, electronic consultations, feedback rounds, discussions by the GFRAS steering committee, and expert input. The GFRAS used a balanced scorecard approach, a strategy tool that analyzes four areas of an organization: the customer perspective, the financial perspective, the learning and growth perspective, and the business process perspective (Kaplan & Norton, 1993).

The operational plan was developed from perspectives of key stakeholders and subject matter experts who used an online survey developed in Qualtrics, an online survey tool that was reviewed by a panel of experts (Global Forum for Rural Advisory Services, 2016).

The GFRAS secretariat identified potential respondents, who were contacted using the Tailored Design Method (Dillman, Smyth, & Christian, 2009). Out of 35 individuals were invited to respond, 21 completed the survey and 11 completed a partial response, for a 91.4% response rate (Global Forum for Rural Advisory Services, 2016). Survey data were analyzed using SPSS and Microsoft Excel.

Results

The strategy discussions with the GFRAS community on where it should focus in the next 10 years led to three strategic fields of action. Each of these strategic focuses action at the three levels of capacity development: Individual, organizational, and system level. They are

   a) Advocacy and support for an enabling policy environment and appropriate investment in rural advisory services (RAS; also called extension services);

   b) Professionalization of rural advisory services; and

   c) Facilitation and enhancement of effective and continuous knowledge generation and exchange.

Extension needs policy advocacy to support its work. Having an explicit policy on extension helps to create an enabling environment that allows extension actors to work more effectively. In addition, extension organizations and individuals need to be able to advocate for increased funding and support from governments and donors. Finally, there is a need for increased investment in extension services.

Extension services have long been under-resourced and face problems of

motivation and incentives. Extension is often seen as an unsuitable or non-viable career choice. Professionalization of the services will address several issues simultaneously: Improving the image of extension, attracting more people into the profession, and making extension services more impactful.

Many extension agents work in rural areas with very little opportunity for peer exchange and continued learning. Similarly, most extension institutions do not have many opportunities for exchange of ideas and knowledge through regular meetings or platforms with which to share knowledge. Evidence is also lacking as to the real impact of many types of extension approaches. Thus GFRAS will work to foster opportunities to exchange knowledge, in addition to creating and sharing knowledge through research, meetings, and online exchange platforms.

Within the 10-year strategic framework, the five-year operational plan provides a framework and steps to meet the six higher-level organizational goals identified in the framework using specific indicators (see Table 1). Through these goals GFRAS hopes to strengthen extension and thus contribute to the Sustainable Development Goals.

Table 1

GFRAS Organizational Goals and Indicators

Goal	Indicators
1. Increased recognition of RAS in policies and investments	• RAS is newly integrated in three global or regional rural development programmes or frameworks by 2020 • Monetary investments in GFRAS have increased by 10% by 2020
2. Strengthened RAS performance	• At least five regional networks report professionalization capacity has increased by 25% between 2016 and 2020 • At least two regions report offering an improved training and education standard for RAS providers based on the philosophy of the new extensionist by 2020
3. Enhanced learning in RAS	• At least five regional networks report knowledge management capacity has increased by 25% between 2016 and 2020 • RAS providers and clientele have at least one opportunity per year to share information, knowledge and experience in at least three regions by 2020
4. Strengthened enabling environment for RAS to use their potential and effectively fulfil their roles	• Three global policymakers or institutions recognize the importance of RAS furthering agricultural innovation systems by 2020 • At least four regional or country level institutions or key people (development agencies, ministries, policymakers, donors, investors, and program managers) openly recognize the need for more professionalization of RAS by 2020
5. Functionally strengthened regional networks	• At least five regional networks report organizational efficiency and effectiveness has improved by 25% between 2016 and 2020 • At least five regional networks have increased the density and strength of their internal and external connections by 2020
6. Appropriate and comprehensive human resources developed in RAS	• At least four regional or country level institutions or key people (development agencies, ministries, policymakers, donors, investors, and program managers) recognize RAS professionals' skills related to furthering agricultural innovation systems have increased by 2020 • At least three regional networks report increasing their ability to improve human resource development of RAS professionals by 2020

Note. From *GFRAS five-year operational plan 2016-2020* by Global Forum for Rural Advisory Services, 2016, Global Forum for Rural Advisory Services. Reprinted with permission of the author.

Conclusions

What does this mean for extension professionals and for the Association for International Agricultural and Extension Education (AIAEE) in particular? As per the AIAEE constitution, "the AIAEE is an organization dedicated to developing new programs in agricultural and extension education and improving or strengthening existing programs and institutions of education to have a positive impact on development efforts worldwide. The AIAEE shall work toward improving the understanding of agricultural and extension education in different international settings among public and professional groups concerned with development. The AIAEE shall maintain liaison and working relationships with such groups and institutions and shall provide a medium for the exchange of ideas and information relating to programs of international agricultural and extension education" (Association for International Agricultural and Extension Education, 2014, para. 1).

The GFRAS strategy and operational plan lay out key areas for research and practice in the next 10 years in which the association is well-placed to engage in line with the constitution. As an association committed to strengthening and improving international extension programs and institutions, AIAEE professionals can contribute to this global work of knowledge generation through their projects and research. AIAEE can help improve the understanding of extension systems around the world. As an association of global extension experts, AIAEE members can contribute to designing and evaluating more effective systems. Members with skills in human resource development can contribute to the on-going learning activities and those with advocacy skills to the policy work. Those with good knowledge of monitoring and evaluation can contribute to monitoring and measuring the operational plan. Finally, the association can provide a medium for discussion and debate on the extension contributions to the Sustainable Development Goals through the annual conference and the journal.

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Decentralization of Mexico's Agricultural Extension Services and the Ongoing Struggle to Alleviate Rural Poverty

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Abstract

A tendency to decentralize national agricultural extension systems around the world caught many countries unprepared to respond effectively to the needs of its rural population under privatized approaches to extension delivery, especially in regard to poverty alleviation. Myriad internal and external factors led Mexico to dismantle its national agricultural extension system in the 1990s, and adopt a more privatized or contractor-driven approach. As a result, significant changes occurred in the way extension services were offered to the public after the system's decentralization by Mexico's federal government, although some similarities remained. After almost two decades of decentralization, the effectiveness of the current system has been questioned regarding its provision of services to marginalized groups who represent the most impoverished of Mexico's citizens. This historical narrative aimed to understand the phenomenon by exploring the causes of decentralization, comparing extension service delivery before and after decentralization, including its outcome, privatization of extension services, and suggest directions for improvement in the future.

Keywords: agricultural extension; decentralization; Mexico; rural poverty

Introduction and Background

Countries need to consider that "poverty is a multidimensional phenomenon" (Van Praag & Ferrer-i-Carbonell, 2007, p. 6). In a national approach to reducing poverty, an agricultural extension system can be an important force (Farrington, Christoplos, Kidd, & Beckman, 2002). If a nation's agricultural extension system is to play a significant role in reducing poverty, its rural and agricultural contexts must be considered. We examined the decentralization of Mexico's national agricultural extension system (NAES), its replacement by a private contractor system, and consequences associated with that change. We also suggest the proper role of Mexico's government regarding agricultural extension and reducing rural poverty in the future.

Rural Poverty Remains a Major Challenge in Mexico

The population of Mexico was about 120 million in 2013 and almost 22% of its citizens were living in rural areas (*Consejo Nacional de Población*, 2013). Impoverished Mexicans accounted for 46.1% of the country's total population in 2012 (*Consejo Nacional de Evaluación de la Política de Desarrollo Social* [*CONEVAL*], 2013). For the Government of Mexico, the population living in poverty includes those "whose income is below the wellbeing line and that endures at least one social deprivation" (National Council for the Evaluation of Social Development Policy [NCESDP], 2012, p. 9). *Extreme poverty* comprises the "[p]opulation that endures three or more social deprivations and whose income is below the minimum wellbeing line" (NCESDP, 2012, p. 9).

As of 2012, six social deprivations were considered in the definition of poverty: educational gap, access to health services, access to social security, quality and spaces of the dwelling, access to basic services in the dwelling, and access to food (NCESDP, 2012). The wellbeing line is defined as the "[m]onetary value of a food, goods, and basic services basket" (NCESDP, 2012, p. 9). In the rural areas of Mexico, 61.6% of the population is impoverished, and one-third, or about five million people, includes Mexicans living in extreme poverty; their meager incomes are not enough to meet daily nutritional needs (*CONEVAL*, 2013; NCESDP, 2012).

Most of the mainly rural states in Mexico have the highest poverty levels (see Figure 1). Mexico's southern states reported the highest extreme poverty rates for 2012, i.e., Chiapas 32.2%, Guerrero 31.7%, Puebla 17.6%, and Veracruz 14.3% (*CONEVAL*, 2013). Not coincidentally, these states have some of the highest proportions of Mexico's more than nine million indigenous people (see Figure 1) with almost one million not speaking the Spanish language (*Diario Oficial de la Federación*, 2010).

a

b

15
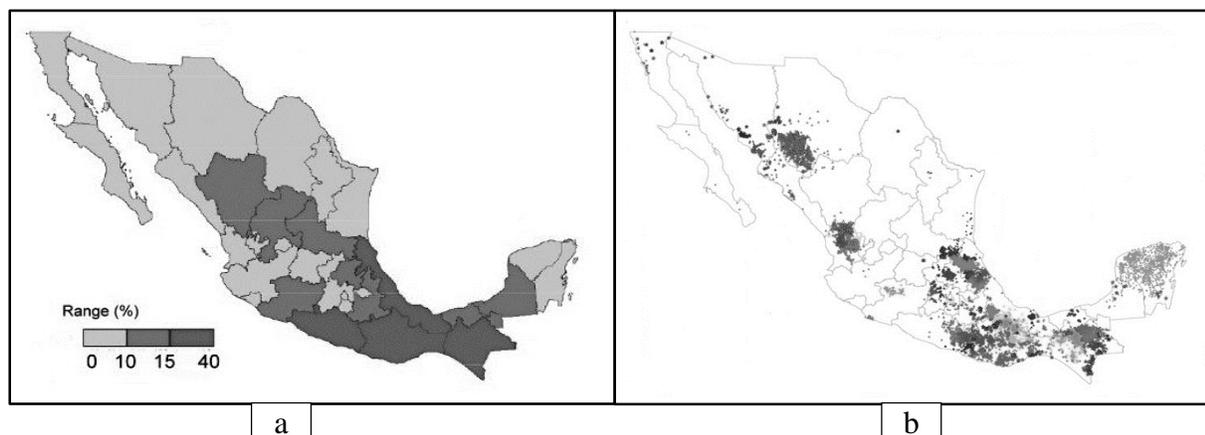
Figure 1. Extreme Poverty and Indigenous People in Mexico: (a) Population living in extreme poverty in Mexico, as of 2010. Adapted from "*Medición de la pobreza en México 2010*" (*CONEVAL*, 2010); (b) Distribution of communities with an indigenous population of more than 40% in Mexico, as of 2000. Adapted from "*Indicadores socioeconómicos de los pueblos indígenas de México*, 2002" (*Comisión Nacional de los Pueblos Indígenas*, 2009).

A Snapshot of the Agricultural Sector in Mexico and Its Economic Importance

Agriculture represents about 4% of Mexico's Gross Domestic Product (GDP) (*Instituto Nacional de Estadística y Geografía* [*INEGI*], 2011a). However, the agriculture sector employs nearly 6.5 million people or 14% of the country's labor force (*INEGI*, 2011b). Of Mexico's approximately six million farms (Muñoz & *Universidad Autónoma de Chapingo [UACh]*, 2007), at least 50% are considered subsistence, 35% are small-scale, and 15% are commercial farms (McMahon & Valdes, 2011). Subsistence farms, however, may comprise up to 60% of total farms (Muñoz & *UACh*, 2007).

For commercial farms, production is tied mainly to exports focused primarily on a few types of fruits and vegetables. In 2010, of more than 70 fresh products, nine represented about 20% of the total value of agricultural exports (*INEGI*, 2011c). The small-scale farm production is linked mainly to the internal market with some participation in exports. Exports from Mexico's agricultural sector are highly vulnerable to market fluctuations in the United States; in 2010, about 80% of its agricultural exports went to the United States (*INEGI*, 2011c).

Among Mexico's subsistence farmers, production is primarily for household consumption. More than 60% of Mexican farms average 20 acres or less (McMahon & Valdes, 2011). However, income for the rural population relies mainly on nonagricultural activities. In 2002, only 29% of rural per-capita income depended on family farm production, 16% relied on migrant remittances, and the largest share was 50% of which four-fifths were wages derived from nonagricultural employment (Taylor, Mora, Adams, & Lopez-Feldman, 2005).

The Beginning of Agricultural Extension Services in Mexico

Before 1950, the agriculture sector in Latin America was only slightly developed, and very limited technologies were used. National governments invested very little in the sector and educational programs in agriculture were rarely offered. The establishment of national extension systems occurred mostly after the World War II period between 1950 and 1975; as a result, the region significantly enhanced its agricultural sector (Kaimowitz, 1993).

In 1949, U.S. President Harry S. Truman launched the *Point Four Program* with the aim of helping to develop poor countries. A significant emphasis was put on agriculture. As a consequence, many changes were implemented to boost agriculture, including reforms that established and augmented agricultural extension systems (Simon, 1950). Mexico, however, did not receive official advice and funding from the United States, as did most of the other Latin American countries. Instead, the country only had to *look over the border* to see an approach to extension on a national scale (Rice, 1971); such was the *conventional wisdom* of some policymakers.

Agricultural extension in Mexico has its origins in a group of agronomists who started providing services in 1911 (Venezian & Gamble, 1969; Yates, 1981). After being interrupted by the Mexican Revolution, the extension service was reinitiated by 1922; however, it experienced a series of

reorganizations and operated with limited support and staff during most of the next three decades (Venezian & Gamble, 1969). In 1948, it acquired the name of *Servicio de Extensión Agricola* [Agricultural Extension Service] (Venezian & Gamble, 1969; Yates, 1981). According to Rice (1971), a NAES in Mexico was established officially in 1953; some services existed before 1953 but not as a national policy. The NAES in Mexico boomed beginning in the 1970s and its growth continued until the middle of the 1980s (Yates, 1981). After that period, the country experienced a series of events, including crises, openness to trade, and reforms, which resulted in the decentralization of its NAES beginning in the 1990s (McMahon & Valdes, 2011).

Purpose and Research Questions

This historical inquiry sought to describe the impact of decentralization on Mexico's NAES, especially regarding the provision of services to small-scale and subsistence farmers who comprise much of the nation's rural poor. This study, therefore, examined the history of the NAES in Mexico *before* and *after* its decentralization. In addition, we suggest implications and recommendations for the federal government's role in the future delivery of agricultural extension services in Mexico. Four research questions guided this study: (a) What were the major reasons for decentralizing the NAES in Mexico? (b) How was agricultural extension offered *before* decentralization? (c) How has agricultural extension been offered *after* decentralization? (d) What should be the role of Mexico's federal government in the delivery of agricultural extension services in the future?

Methods and Procedures

Historical research methods were used to answer the questions that guided this study (McDowell, 2002). McDowell (2002) stated

that historical evidence should serve as the basis for understanding our past. He asserted: "[C]hange occurs on a constant basis and so we are unable to freeze reality, except perhaps when we look at historical evidence, such as written or photographic material" (p. 3). Further, Hale and Astolfi (2007) proposed five steps to follow in historical research: (1) identification of the research problem; (2) collection and evaluation of source materials; (3) examination of collected evidence; (4) synthesis of information; and (5) analysis, interpretation, and formulation of conclusions. These steps guided this inquiry. Primary and secondary sources, including peer-refereed journal articles, books, newspapers, photographs, and government reports, were retrieved and analyzed by the researchers during 2013 and 2014. Internet search engines as well as library search engines at Oklahoma State University were used to identify the study's sources of data. Sources in the Spanish language were translated by the lead author who is a native speaker of Spanish. All of the sources were subjected to internal criticism for accuracy and external criticism for authenticity (Johnson & Christensen, 2010).

Findings

Major Reasons for the Decentralization of Mexico's NAES

Public extension services, including those involving agriculture, have been critiqued as "inefficient, irrelevant, ineffective, and poorly targeted" (The World Bank, 2000, p. 6). Attempts have been made worldwide to decentralize many public or national extension systems (Rivera, 1996, 2000; Rivera & Qamar, 2003; Swanson, 2011). According to Swanson (2011), pluralistic extension systems are becoming more common in most of the world's regions.

A series of reforms in the 1990s dismantled national extension systems in many countries, which decentralized the delivery of their services, including provisions to the agriculture sector. In Mexico, some of the reasons for decentralizing the NAES were because of its low efficacy and sub-par efficiency, significant financial crises, and a burgeoning openness to free trade (McMahon & Valdes, 2011). As of 2012, Mexico had free trade agreements with more than 40 countries which started in the 1980s and were augmented in the 1990s with its opening to trade liberalization and integration policies (Villareal, 2009). Trade openness in Mexico exposed its agricultural producers to global competition; therefore, a government strategy to face the external competition was to devolve services from the public to the private sector with the aim of making the agriculture sector more efficient (Muñoz & UACh, 2007). According to McMahon and Valdes (2011), trade openness led to a *model of export-driven agriculture* in Latin America, including Mexico.

Mexico's financial crisis, which also contributed to decentralizing its NAES, can be traced to the aftermath of World War II, when most developing countries, including Mexico, adopted an *imports-substitution-industrialization* economic policy to replace foreign imports with domestic production (Felix, 1989). By the 1970s, however, Mexico experienced a financial crisis as a result of that economic policy (Jiménez Alatorre, 2006). The country was unable to continue to afford its domestic expenditures, recurring to borrow money from the United States and the International Monetary Fund [IMF] (Barkbu, Eichengreen, & Mody, 2012; Lusting, 1997).

The IMF assistance continued for almost the entire decade of the 1980s, and during some of the 1990s to face the economic crisis of 1994 (Barkbu et al., 2012).

As a consequence of the IMF's lending conditions and also as a national commitment, Mexico's government was obligated to reduce its size to repay debt and to begin operating on a sounder financial footing (Barkbu et al., 2012). Important state-owned, agriculturally related institutions were restructured to make them more efficient, e.g., the *Banco de Crédito Rural* (*BANRURAL*) [Rural Credit Bank], the *Aseguradora Nacional Agrícola y Ganadera* (*ANAGSA*) [National Agricultural and Livestock Insurance], and the *Compañía Nacional de Subsistencias Populares* (*CONASUPO*) [National Company of Popular Subsistence] were reformed. Other entities were sold to the private sector, e.g., the *Productora Nacional de Semillas* (*PRONASE*) [National Seed Producer] and the *Fertilizantes Mexicanos* (*FERTIMEX*) [Mexican Fertilizers] (Díaz Tapia, 2006).

Other than a financial crisis during this period, officials determined that because many of the state-owned institutions had become so inefficient and corrupt, their operation in the future would be highly problematic (Díaz Tapia, 2006). A representative example is the case of *ANAGSA*, the state-owned crop and livestock insurance service, which was created in 1961. By 1964, insurance losses were about 30%, increased to 57% by 1976, and were 75% before its closure in 1990 (Díaz Tapia , 2006); the losses represented government subsides of about 62% of the total operating budget of *BANRURAL*, Mexico's main rural credit bank. The provision of insurance through a state-owned company required considerable subsidies because of the farmer's premium cost and the company's administrative expenses.

As Díaz Tapia (2006) reported, *negotiations* between the insurance agents and farmers were common at the community level. This kind of contact between farmers and extension agents led to corrupt practices (Díaz Tapia, 2006, p. 9). As a consequence of

the abovementioned factors, decentralization of the NAES occurred in Mexico by 1994. The planning and funding continued to be mainly a government function, but the delivery of services would be open to individuals or groups interested in providing such, whether private, public, or other governmental entities, e.g., States. This would be a much different way of reaching farmers compared to the system and methods used before.

Agricultural Extension Before Decentralization

Forty extension agents were working in Mexico in 1953; the number rose to about 230 by 1956 after a budget increase in 1954 (Venezian & Gamble, 1969). In 1961, Mexico had 220 extension agents (Cole & Sanders, 1970). Of the 15 countries in Latin America, in 1961, Mexico had the largest number of extension agents, excluding Chile with 460; the other 13 countries together had only 997 agents (Cole & Sanders, 1970). Gustavo Díaz Ordaz, President of Mexico from 1964 to 1970, was very interested in poverty reduction and rural development (Rice, 1971). In 1969, the national budget for agricultural extension services was five times larger than the allocation during 1966. Rice (1971) stated funding was received on time and "jeeps were in good supply" (p. 69) under Díaz Ordaz, and the NAES had enough money to operate (Rice, 1971). The number of agents increased to 700 by 1969, and they were distributed in 430 offices; all of the agents held an agricultural engineering degree (Rice, 1971). For many years, especially during the 1970s, graduates in agriculture from Mexico's universities had *guaranteed positions* in one of the government agencies related to the agricultural sector (Venezian & Gamble, 1969).

Extension agents in Mexico were assigned to serve a specific population. According to Cole and Sanders (1970), by 1969, one Mexican agent was mobilized to provide services for an average of 35,000 farmers, also referred to as *production units* or *family farms*. In comparison, one extension agent in Venezuela, Panama, Costa Rica, and Argentina was serving 17,000, 18,000, 28,000 and 31,000 farmers, respectively (Rice, 1971). However, Venezian and Gamble (1969) concluded "[the] number of extension agents relative to farm families [was] about 1 to 10,000" (p. 165) for Mexico in 1967. The ratio of agents to beneficiaries in the United States and Japan was 1 to 540 and 1 to 650, respectively, for the same year (Venezian & Gamble, 1969). In 1976, fusion of the three main agricultural banks in Mexico created *BANRURAL*, which buoyed the NAES by employing a large number of agents (Yates, 1981). In the early 1990s, before decentralization, about 25,000 extension agents were employed by Mexico's Government (McMahon & Valdes, 2011), and most of their services were related to agriculture.

The usual way of reaching farmers to deliver agricultural extension services, also boosted after the creation of *BANRURAL*, was through the *ejido* (Yates, 1981). According to Johnson (2001), before 1992, *"[e]jidos* [were] communities that own[ed] land communally and work[ed] it under a system of permanent but nontransferable use[r] rights"* (p. 292). The *ejido* was the main achievement of the Mexican Revolution; it provided land to the people by redistributing properties belonging to the big *haciendas*. According to the 1991 *ejidal* census, almost 30,000 *ejidos* existed in Mexico, including upwards of three million members or *ejidatarios;* thus, almost one-half of Mexico's land was stewarded under this form of social (or communal) tenure (*INEGI,* 1994). A similar number was reported about a decade earlier by Venezian and Gamble (1969). More recent, Escalante (2001) posited that more

than 50% of Mexico's land was held under this social tenure system.

In 2008, *ejidos* were reported to have increased from 30,305 in 2001 to 31,518 in 2007 and comprised 54.4 % of Mexico's land (*INEGI*, 2008). A single *ejido* communal area is divided into units of land, or *parcela,* e.g., 100 units comprising 20 acres each, with an independent governance system following the principles of Mexico's agrarian law (Escalante, 2001). Before the reforms of 1992, the land could not be sold, rented, leased, or subjected to any private contracts (Johnson, 2001). The *parcela* only could be transferred to a family member or another person by the approval of a majority of e*jido* members or *asamblea ejidal,* a group that meets regularly to confer on communal interests and issues (Escalante, 2001).

Before decentralization, the delivery of agricultural extension services was differentiated, in most cases, by the types of farmers served (Venezian & Gamble, 1969). Most commercial farmers were able to pay for extension services. Therefore, small-scale and subsistence farmers were *BANRURAL's* usual clients (Venezian & Gamble, 1969; Yates, 1981), and many were *ejidatarios. BANRURAL* designed production packages for the *ejidos* that included all costs of production; in the main, however, no money was given directly to the farmers. The credit provided to the farmers would cover their costs of production inputs and advisory services, as supplied by the state-owned companies (Meza Castillo, 2011), i.e., credit, extension, and project administration were provided by *BANRURAL*, seeds were supplied by *PRONASE*, fertilizers by *FERTIMEX*, and crop insurance by *ANAGSA*. *CONASUPO* would deliver the goods through its local stores and also serve as the reception point for farmers' harvests. *BANRURAL* and/or *CONASUPO* were often also in charge of selling the harvest (Escalante, 2001; Yunez-Naude, 2003).

Urban settlements in the *ejidos,* usually in their communal areas, provided basic services such as an elementary school and a grocery store. *CONASUPO* managed the stores which were "retail shops to sell basic foods to the rural and urban poor, and it was also involved in the trade of fertilizer and improved seeds and in peasant training programs" (Yunez-Naude, 2003, p. 5). In most *ejidos,* one *parcela,* the *parcela escolar,* i.e., the school plot, was allocated for field practicums (see Figure 2). It was where demonstrations by NAES personnel took place; and, in most cases, profits from production activities in the *parcela escolar* were given to the school (García Solorzano, 2010); see Figure 2.
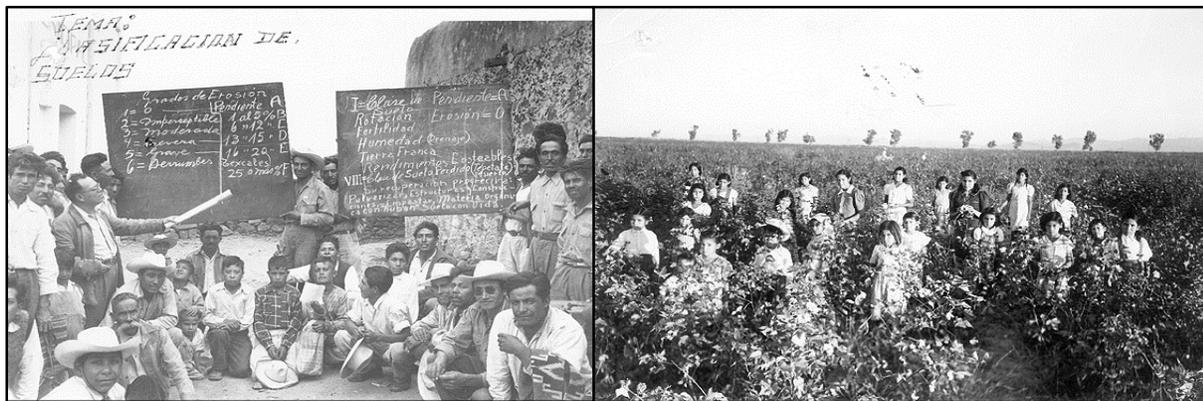
a   b

Figure 2. The Role of the *Ejido* in Agricultural Extension in Mexico before Decentralization: (a) Photograph of a rural school in the 1950s. (their subject was soil classification.); (b) Photograph of a cultivated *parcela escolar* in the *ejido* San Luis, municipality of Torreon, Coahuila, Mexico, 1938-1939 school year. Copyright by *Universidad Nacional Autónoma de México* (n.d.a, n.d.b).

Agricultural Extension After Decentralization

In most countries of Latin America, few complementary reforms followed the decentralization of public institutions, including their agricultural extension systems. As a result, many of the programs faltered or failed to reach expectations due to inadequate monitoring practices or adherence to transparent accountability mechanisms (The World Bank, 2000). In the case of Mexico, two events marked the way extension was delivered after the NAES was decentralized: (1) *BANRURAL* was replaced, and (2) the *ejido,* as a legal entity, was reformed.

In 1989, the government eliminated *BANRURAL* and a similar agency was created to offer government-sponsored rural credit, *Financiera Rural*, but due to the previous institution's failure, the rules to access credit were tightened with much stricter lending and repayment requirements (Meza Castillo, 2011). Moreover, in 1992, the agrarian law of Mexico was reformed so the land of the *ejidos* could become private property (Escalante, 2001). Thereafter, the *ejido* lost its somewhat paternalistic ability to reach farmers through the NAES agents. As for commercial farmers, they continued to pay for extension services, which was not the case of most small-scale and subsistence farmers who could seldom afford to pay for assistance. Extension services were now delivered primarily by private sector contractors either working alone or in groups (McMahon & Valdes, 2011). McMahon & Valdes (2011) explained:

> A dedicated agricultural extension service does not exist in Mexico [today]. . . . The technical assistance is implemented through private sector contractors, *prestadores de servicios profesionales* [*PSPs*], whose function is to implement the programs at the farm level. This program was a government strategy to create a market for these services as a response to the abandonment in the early 1990s of the National Directorate for Agricultural Extension. *Servicios Profesionales* as defined for these purposes includes strategic planning, project formulation, accessing public resources, technical advice, commercial strategies, training etc. with the goal of supporting farmers to increase efficiency and facilitate their incorporation into value chains. (p. 17)

PSPs serve as a bridge between the government and farmers and compete for government resources, typically, charging a percentage of the project's budget, as provided by government agencies related but not limited to agriculture. The extension agents, therefore, are *rent-seekers* in the competition for government support rather than *resource-linkers* and *advocates* for farmers (McMahon & Valdes, 2011); moreover, little follow up of projects occurs after receiving the funds (Swanson, 2011). Further, the agents often face low salaries, short-term contracts, job insecurity, and late payments for the services they deliver to *SAGARPA* [Secretariat of Agriculture, Livestock, Rural Development, Fisheries

and Food]; they were about 6,000 in 2011 (McMahon & Valdes, 2011).

The agricultural extension system in Mexico, historically, focused mainly on the production process; few efforts were made to develop a value-addition chain. If evaluation did occur in any part of the value stream, it concentrated mainly on production. McMahon and Valdes (2011) found a systemic deficiency of *impact evaluation* throughout the current provision of Mexico's extension services, from the generation of technology to its diffusion and across the entire process. Evaluation is based mainly on the government's indicator of the percentage of farms receiving support (*Diario Oficial de la Federación,* 2013). Despite an increase in the national government's budget for the agricultural sector, due to the exclusive operational rules on which the allocations are based, only a small percentage of farmers benefit; in 2008, only 6.3% of farmers had access to credit and 17,000 received 60% of the government's funds (Ramos, 2013).

The present system of technical assistance as implemented through the support programs is highly fragmented and is based on individual projects. . . . [T]here is a dispersion of effort and resources into small projects and there is a lack of integration in terms of territorial development and productivity goals. . . . The driving force behind demand is access to government programs (*'la inercia de la ventanilla'*). *The means becomes the end* [emphasis added]. (McMahon & Valdes, 2011, p. 17)

A counterfactual example of progress during the era of decentralization may be the Capacities Development and Extension Program, which focuses on different production scales. According to the Organisation for Economic Co-operation and Development (OECD, 2012), a key component of this program is the Strategic Project for Food Security or *PESA,* which began operating during 2002 in collaboration with the Food and Agriculture Organization (FAO). *PESA* provides support to small farms and farm households in highly marginalized rural areas. Other programs follow the same three-component approach: investment-extension-conservation, i.e., deploying resources from earlier programs and focusing on large-scale production activities (OECD, 2012). *PESA* is a new approach that aims to better impact its clients (*SAGARPA*, 2014).

Conclusions and Discussion

The role of national governments in the provision of extension services has been minimized in many countries; instead, diverse systems have emerged with varying levels of involvement from the private sector (Swanson, 2011). However, decentralization of agricultural extension services leading to their privatization may produce problems that undermine progress (Rivera, 1996). Decentralization stands to foment expected and desirable consequences as well as unexpected outcomes (Bruno & Pleskovic, 1996) which may be undesirable (Rogers, 2003).

Mexico's NAES started after World War II, following a worldwide pattern, when the United States helped a number of developing countries establish their extension systems (Kaimowitz, 1993; Rice, 1971; Simon, 1950; Venezian & Gamble, 1969; Yates, 1981). Mexico, however, did not receive formal assistance from the United States in regard to its NAES (Rice, 1971). Mexico's extension system boomed considerably during a period of good economic performance from the 1940s to

the 1970s due to high demand for products that began with the post-World War II era (Yates, 1981). Mexico's President, Díaz Ordaz, from 1964 to 1970, dedicated considerable resources to establish a robust NAES (Venezian & Gamble, 1969; Yates, 1981). Further, the fusion of Mexico's three main agricultural banks created *BANRURAL* in 1976, which buoyed its extension services by employing more agents (Yates, 1981).

Agricultural extension services before decentralization were planned and executed by Mexico's national government. The most common way to reach farmers was through the *ejidos* (Venezian & Gamble, 1969), a highly organized communal land tenure system controlled by the government that included more than three million small-scale and subsistence farmers (Johnson, 2001). Under the *ejido* system, farmers were reached by government institutions mainly through *BANRURAL* and its affiliates. However, the participation of farmers in planning the government programs was very limited or non-existent; they were simply another production input, i.e., labor, rather than participants who took managerial, decision-making positions in the production process (Escalante, 2001). Commercial farmers usually paid private contractors for their extension services (Venezian & Gamble, 1969; Yates, 1981).

The collapse of Mexico's financial system in the late 1980s resulted in a trend to decentralize public institutions beginning in the 1990s (McMahon & Valdes, 2011). The elimination of a web of state-owned institutions led to Mexico's NAES being essentially dismantled and replaced by a pluralistic extension system where government provides the funding and the private sector delivers services (McMahon & Valdes, 2011), i.e., *in concept*. Another main factor that precipitated the decentralization of Mexico's NAES was the high incidence of corruption it tolerated (Díaz Tapia, 2006) along with the escalating pressure of global competition caused by trade pacts such as the North American Free Trade Agreement (McMahon & Valdes, 2011). Although Mexico's Government increased its budget for the agricultural sector during the era of decentralization, the current system's operational rules are benefiting only a small percentage of the nation's farmers (Ramos, 2013).

Even though Mexico no longer has a NAES, its agricultural extension services still could be considered *centralized* (McMahon & Valdes, 2011). This is because most services are delivered to farmers as a result of decisions made at the federal level rather than as initiatives emanated by a *bottom up approach* as argued for by Swanson (2011). After the government approves funding for a specific program, the *act of extension* is now between a private contractor and his *client,* the farmer, instead of a federal extension agent serving as a *beneficiary's* advisor.

Poverty remains a major problem (*CONEVAL*, 2013), especially in the rural areas of southern Mexico, even though the agricultural sector of this region represents an important source of employment and wealth generation. Moreover, this is where many of the more than six million farmers of Mexico are located, also where more than six million indigenous people live (see Figure 1), and where extreme poverty affects people the most (*CONEVAL*, 2013; *Consejo Nacional de Población*, 2013; *INEGI*, 2011b). The main strategy of Mexico's Government to alleviate poverty has been conditional cash transfer programs which

provide some relief but this model of *clientelism* perpetuates poverty rather than reducing it (Ansell & Mitchell, 2011).

Muñoz and *UACh* (2007) concluded that, generally, income from the agricultural sector, as contribution to a nation's GDP, is at least two times more effective in reducing poverty than the income derived from other sectors. Moreover, innovation is a key factor for generating additional income from the agricultural sector. Governments, therefore, should provide conditions for this to occur, such as laws and infrastructure, including the harmonization of relationships with and among service providers of agricultural extension (Muñoz & *UACh*, 2007). In addition, transparent monitoring and evaluation schemes must be designed properly and implemented professionally to be effective (Ansell & Mitchell, 2011; McMahon & Valdes, 2011; Swanson, 2011).

Implications and Recommendations

A high rate of rural poverty is not only a norm in Mexico; the poverty rate in Latin America is 44% overall but 64% in rural areas (International Fund for Agricultural Development [IFAD], 2002). Moreover, youth, about 30% of the population, are affected even more; children under the age of 15 are 1.7 times more likely to suffer from poverty than adults (IFAD, 2010).

Multidimensional poverty must be addressed with a multifaceted approach. Mexico's Government needs to redefine its national approach to extension to better serve farmers of all socio-economic strata but especially the small-scale and subsistence producers. It is the more than five million small-scale and subsistence farmers who are in most need of government-provided extension

services, commercial producers, historically, have paid for their extension services (McMahon & Valdes, 2011; Rivera, 1996; Venezian & Gamble, 1969; Yates, 1981).

The current system for delivering agricultural extension services to Mexico's farmers is untenable if those most in need are to receive assistance commensurate with their challenges. The number of extension agents in Mexico is currently about 6,000 who are expected to serve approximately five million farmers (McMahon & Valdes, 2011); a ratio of one extension agent to more than 8,000 farmers is the reality.

Elsewhere in Latin America, Guatemala's government has enjoined to reestablish its national extension system where the *PESA* program plays an important role in serving the rural poor (*Gobierno de Guatemala,* 2012; Swanson, 2011). A new strategy should include increasing the number of extension agents similar to Guatemala (*Gobierno de Guatemala,* 2012), as well as expanding the partnership with FAO through the *PESA* program. *PESA* is operating currently in Mexico with encouraging results but in only a few highly marginalized rural areas (OECD, 2012). Moreover, if delivered in a contextually appropriate way, an organization of youth, adult leaders, and volunteers might multiply Extension's impact even further; examples include the 4-H Organization and school-based, agricultural education/FFA models practiced in the United States (Lindley, 1992; Mukembo, Edwards, Ramsey, & Henneberry, 2014). Other alternative ways to reach Mexico's farmers also may involve more extensive use of mass media channels, such as radio and television, of the formal education system, as well as increasing their access to and use of the Internet and social

media (Schoemaker & Stremlau, 2014) to focus more on process innovations rather than product innovations (Swanson, 2011).

Government rules of operation, especially the guidelines for accessing funding, should be changed according to the needs of farmers and extension providers. Rules of operation should provide equal access to all farmers and not only to the approximately 17,000 who receive 60% of the resources (Ramos, 2013). In addition, the low salaries, short-term contracts, job insecurity, and late payments experienced by private contractors providing agricultural extension must be addressed (McMahon & Valdes, 2011). Doing that stands to reduce the prevalence of agents participating in corruption and improve their performance overall.

According to Swanson (2011), in a pluralistic extension system many actors collaborate to plan, deliver, and evaluate the system's services. The current pluralistic extension system can be improved to help reduce rural poverty in Mexico. Rivera (2000) suggested that, rather than the typical decentralization of the extension services toward local governments, a federalization of the strategy may contribute more to the alleviation of poverty: "Federalization is the involvement of all levels of government in the funding and direction of extension services" (p. 2). To this end, Rivera (2000) predicted:

Decentralization reforms, when limited to shifting authority to lower levels of government or to the private sector alternatives, will fail to address major issues of public concern and will, within the next decades, result in a reconsideration of the value and utility of national extension services. (p. 3)

Mexico's government officials charged with ensuring that its agricultural extension services perform as intended are encouraged to consider Rivera's admonition and begin strategizing on how best to recalibrate the current system. No less than improving the lives of millions of their citizens could result from good policies, properly implemented, with a bias toward measurable and sustainable results. Finally, if Mexico's government is interested in assisting those farmers most in need, it is encouraged to reconsider the role of the *ejido* as a social cohesive force and an actor for positive change. Even though *ejidos* experienced significant reforms in 1992 (Escalante, 2001; Johnson, 2001), they remain functional and vibrant.

Ten points are offered for Mexico's Government to consider to reform and revitalize its approach to providing extension services, especially in regard to reducing rural poverty: (1) strategies should focus mainly on rural areas due to their higher poverty levels (IFAD, 2002); (2) focus strategies according to farmers' scale of production, i.e., commercial, small-scale, and subsistence (Maass Wolfenson, 2013); (3) commercial farmers need to diversify their production for the export market to be less susceptible to price fluctuations or market dependency (United Nations Development Programme, 2011); (4) small-scale farmers need incentives to increase production designed to satisfy the domestic market (IFAD, 2013); (5) subsistence farmers need a comprehensive strategy that should include not only agriculture but all of the economic activities supporting their income generation (Fritzsch, 2012); (6) equal opportunities for women and other marginalized groups should be cross-cutting components of all strategies (International Food Policy Research Institute, 2012); (7) youth also should be

targeted across all strategies (Proctor & Lucchesi, 2012); (8) local contexts and the many socio-economic-cultural variables should be considered in the development and execution of all strategies, e.g., indigenous peoples should be served according to their customs and languages considering that a high number of the rural poor do not speak Spanish (Tripathi & Bhattarya, 2004); (9) an *impact evaluation strategy* should be established at all levels and for all programs according to the major

objectives and realities of the processes and stakeholders involved (Farley, Lucas, Molyneaux, & Penn, 2012; Muller-Praefcke, 2010); and (10) education and training in effective leadership and ethics should be compulsory for all stakeholders, including extension providers, farmers, and other key participants (Brown, 2006; Lasley, Baumel, Deiter, & Hipple, 1997; Schminke, Wells, Peyrefitte, & Sebora, 2002).

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University Student and Faculty Needs, Barriers, and Expectations of International Efforts and Opportunities: A Closer Look at One Land-Grant University's College of Agriculture

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Abstract

International academic opportunities have gained increased attention among students, faculty, and administration at American universities. It is important for agricultural students to have an awareness and understanding of agricultural policy and issues in the United States and other countries. Also, faculty who have personal and professional ties internationally are often the link for these students to engage in global experiences. This study used descriptive survey methodology to assess students (N = 773) and faculty (N = 85) at the University of Arkansas about their perceptions of international experiences, as well as what they saw as the most influential barriers and influencers to participating in international experiences. Students noted their parents (M = 3.30) as the most impactful influence for deciding whether or not to engage in an international experience, and cost (M = 3.92) was perceived as the most influential barrier to an international experience. Faculty noted money (84.2%) and time (80.7%) as barriers, and about one-half of the faculty wished to collaborate with institutions in Europe. Faculty perceived that institutional financial support should be provided to both faculty and students (74.1%). This study notes student influencers and barriers and faculty needs and provides recommendations for improving international learning experiences and opportunities for future research.

Keywords: agricultural education, international experiences, international experience influencers and barriers, study abroad

Introduction

Study abroad opportunities for United States students have been a common theme in higher education since the 1970s (Hachtmann, 2012). These experiences have diversified over the years, starting as a general education model focused primarily on sending mostly female students to Western European countries for cultural and language training (Hachtmann, 2012). Now, study abroad experiences focus on preparing students for a global market, and the typical experience is not easily defined (Hachtmann, 2012). During the 2011-12 academic year, 283,332 U.S. students studied abroad for academic credit, an increase of 3.4% from the previous year (Institute of International Education, 2013). This mirrors the trend in study abroad increases over the past two decades, during which U.S. student participation has more than tripled (Institute of International Education, 2013). Higher education prioritizes internationalization through various programs for increased academic and professional opportunities involving students and faculty (Andreasen, 2003; Dewey & Duff, 2009; Harder, Lamm, Roberts, Navarro, & Ricketts, 2012; Navarro & Edwards, 2008; Salisbury, Umbach, Paulsen, & Pascarella, 2009). Internationalization efforts at one university was categorized into four main areas: faculty research and teaching, curriculum, study abroad programs, and other areas of activity (Dewey & Duff, 2009). Yet, these efforts vary by institution.

Engaging in international experiences provides students with many educational opportunities and instances to develop professionally and personally (Kitsantas & Meyers, 2001). The educational justifications for study abroad include increases in students' level of awareness of the interdependence of nations, value of diversity, development of global perspective, and the importance of international understanding (Kitsantas & Meyers, 2001). In addition to these educational justifications, it is also thought that study abroad experiences allow students to be more competitive in the job market after graduation and to develop language proficiency and lifelong friendships (Kitsantas & Meyers, 2001). Research also links the accumulation of culturally relevant knowledge gained from study abroad experiences to creative thinking processes (Lee, Therriault, & Linderholm, 2012). Within the framework of a global knowledge-economy, universities provide and advertise study abroad opportunities that are thought to equip students with the skills, abilities, and mindsets "needed to deal with the realities of globalizing markets, greater job insecurity, and the likelihood of continual occupational mobility throughout their lives" (Barnick, 2010, p. 21). The University of Arkansas set a goal for 25% of graduating seniors to complete an international experience (University of Arkansas Annual Report, 2013); however, the current rate of graduating seniors in the Dale Bumpers College of Agricultural, Food and Life Sciences (Bumpers College) at the University of Arkansas completing an international experience ranges from 3 to 5% annually (Dean Michael Vayda, personal communication, August 22, 2013).

Ultimately, the decision to study abroad is for each student to make, and students must consider a myriad of factors before committing to pursue an international experience. When students choose programs, decisions are usually made based on budget or career goals (Salisbury et al., 2009). Students who prioritize budgets consider additional direct or indirect costs, family income, and other financial considerations, and students who choose a program based on career goals consider their academic potential, preparation for program

achievement, and the likelihood that a program will enable them to reach their career goals (Salisbury et al., 2009). Salisbury et al. (2009) also noted the socioeconomic status of a student's family, based on parent's income and education level, is positively related to intent to study abroad. Students are also influenced by timing, meaning they decide when to study abroad based on education and career timeline (Barnick, 2010).

Students viewed study abroad opportunity attributes as motivators or deterrents in the decision-making process (Payan, Svensson, & Hogevold, 2012). The motivator and deterrent attributes were statistically different, and the research showed that motivators have stronger impact on students' likelihood to study abroad (Payan et al., 2012). Motivators include attributes such as "fun, different culture, personal development, different language, and broadened career opportunities," and all of these attributes loaded on one factor in the statistical analyses of Payan et al. (2012, p. 76). Deterrents loaded on three separate factors, which included (1) relationships and commitment, (2) country concerns, and (3) economic concerns; only one deterrent was significantly negatively associated with the likeliness to study abroad; relationships and commitment (Payan et al., 2012). Payan and colleagues (2012) postulated the likeliness to study abroad was influenced primarily by three factors: risk aversion, motivators, and the relationship and commitments deterrent. Economic concerns did not have a strong effect on the likeliness to study abroad, which could be attributed to the economic conditions in the countries, i.e. the United States and Norway, where this data was collected (Payan et al., 2012).

Once students decide to engage in an international experience, they must make the decision of where to travel. In 2012, the top three leading destinations of U.S. students

were the United Kingdom (12.2%), Italy (10.5%), and Spain (9.3%) (Institute of International Education, 2013). In terms of choosing where to study abroad, historical or colonial links between home and host countries, commonality of language, the availability of science or technology-based programs, and geographic proximity of the home and host countries all play important roles (Mazzarol & Soutar, 2002). Researchers also noted the more knowledge a student has of a potential host country, the more likely the student will be to travel there (Mazzarol & Soutar, 2002). Another factor that influences students' choices of study abroad destinations is family influence, which is particularly strong for undergraduate students (Mazzarol & Soutar, 2002).

As noted previously, international experiences allow students to grow personally and professionally (Kitsantas & Meyers, 2001). The task of seeking and securing opportunities for students in higher education, however, often falls to university faculty. After participating in an international experience, faculty strongly supported student participation in international programs (Hand, Ricketts, & Bruening, 2007). Faculty who participate in international programs acquire unique aspects in their professional development (Hand et al., 2007; Harder et al., 2012; Navarro & Edwards, 2008), such as "academic validation, intellectual growth, acculturation, academic administration, and cognitive repositioning" (Festervand & Tillery, 2001, p. 109). Faculty participating in international efforts have a changed outlook on the world and their careers (Hand et al., 2007; Harder et al., 2012). Faculty research and teaching on an international level includes personal experiences, conference and network participation, and both short-term and long-term appointments as visiting researchers or instructors at

institutions abroad (Dewey & Duff, 2009). Faculty-perceived benefits include working with people from different cultures, expanding their knowledge of current issues and affairs on an international scale, positive impact on teaching, and having a life-changing experience (Dooley, Dooley, & Carranza, 2008; Hand et al., 2007).

Previous studies noted barriers to faculty involvement in international efforts, especially concerning program cost and time commitment (Andreasen, 2003; Dewey & Duff, 2009). Lack of administrative support may be another barrier to faculty involvement in beginning and leading a study abroad initiative. With no recognition of international efforts for tenure and promotion decisions, assistant professors are discouraged from engaging in international programs or research (Dooley et al., 2008). Higher education institutions should offer financial opportunities and tenure and promotion decision incentives to encourage faculty to participate in and expand on international opportunities (Dooley et al., 2008). Departmental challenges when faculty members are abroad, such as securing replacement instructors, managing salary payment, and maintaining continuity in the department, also serve as deterrents to faculty pursuing international experiences (Dewey & Duff, 2009). "Barriers exist, real or imaginary, regarding the internationalization of courses, departments, colleges and the university as a whole" (Andreasen, 2003, p. 65). Barriers to successful faculty international work should be reduced or eliminated in colleges of agriculture to facilitate internationalization (Andreasen, 2003).

Theoretical Framework

Social cognitive theory has been used to describe the processes that occur during a study abroad experience (Conner, 2013). Social cognitive theory is an explanation for learning based on interactions between people (Bandura, 1986). Bandura (1986) asserted that learning can only occur if individuals involved in the process possessed prior capabilities, including symbolizing capability, forethought capability, vicarious capability, self-regulatory capability, and self-reflective capabilities. The symbolizing and forethought capabilities hold particularly important impact on students as they decide and prepare to engage in an international learning experience. Symbolizing capability allows individuals to adapt and alter their surrounding environment and assign meaning to that experience; it is also the first capability learners must negotiate (Bandura, 1986; Conner, 2013). Students who decide and prepare to engage in international experience must first navigate this capability if they desire to attribute meaning to the change in their environment, which in this case is an international learning experience. Forethought capability allows learners to think about the consequences their actions will create before they engage in the behaviors (Bandura, 1986). This is important for students who are making the decision to study abroad; whereas, they must weigh the consequences of an international experience before they engage in the experience.

The need exists for educators to support student participation in study abroad programs (Wingenbach, Boyd, Lindner, Dick, Arispe, & Haba, 2003). Wingenbach et al. (2003) found a lack of knowledge about international agricultural issues among undergraduates, but noted potential, existing opportunities to present knowledge in classroom curriculum or through participation in international experiences. Research has been conducted to determine the effect of study abroad programs on students in a college of agriculture (Zhai & Scheer, 2002). The study abroad experiences

of the agricultural college students had positive effects on self-efficacy and understanding of cultural diversity and understanding (Zhai & Scheer, 2002). It is particularly important for agricultural students to gain awareness of international agriculture and the effects of policy and issues on agriculture in the United States and other countries (Edgar & Edgar, 2009). The National Research Agenda, a document that guides the agricultural education discipline, prioritizes sufficient scientific and professional workforce that addresses the challenges of the 21st century and meaningful, engaged learning in all environments; both of these priorities can be improved through a better understanding of international learning experiences at the collegiate level (Doerfert, 2011). Yet, little research has been conducted to understand what factors contribute to an agricultural student's desire to study abroad, where college of agricultural students want to study abroad, and what hinders agricultural students from studying abroad. In addition, to allow educators to support student participation in study abroad programs, research should be conducted to assess the past international experiences of faculty members, as well as their preferred views on opportunities and existing barriers to future experiences.

Purpose and Objectives

Previously, the Bumpers College at the University of Arkansas did not have a centralized office to support international programs for its faculty and students. However, in August 2013, a formal office was established. As part of the charge of the new international programs office, it was important to understand perceptions, preferences, and needs of students and faculty, along with influencing factors, barriers, and benefits to students and faculty

engaging in international learning experiences.

This study assessed Bumpers College students at the University of Arkansas to determine students' preferences for various types of international learning experiences, desired length and time of experience, and barriers to studying abroad. This study also surveyed faculty to determine their perceptions of benefits to being involved in international efforts, barriers to involvement, and location of preferred international engagement.

Four objectives guided this study: 1) determine students' perceptions of international experiences (i.e., time and duration); 2) describe students' influencing factors and barriers for engaging in international learning experience; 3) determine faculty members' perceptions of benefits and barriers to being involved in international efforts; and 4) describe locations of faculty previous and/or preferred international engagement.

Methods

This study utilized descriptive survey methodology to assess student and faculty perceptions of international experiences, perceived barriers and influencers of international experiences, and selected characteristics of the respondents.

The population for this study consisted of all Bumpers College students. Therefore, the student survey used a random stratified sample, i.e., academic department and course level (Trochim, 2001), of large-enrollment undergraduate courses in the Bumpers College during the fall semester of 2013. Initially, 24 courses were identified to be surveyed, but only 19 course instructors agreed to participate and were surveyed as a part of this research study. The instrument was distributed during a regularly scheduled class meeting for each course. Prior to instrument distribution, a brief statement

was read explaining the purpose and voluntary nature of the study and asking students having completed the instrument in another class to not participate again. According to official course rosters, 1,094 (potentially duplicated) undergraduate students were enrolled in these 19 courses; usable data were collected from 773 students for a 70.1% response rate. Because of the anonymous nature of the research it was not possible to control for non-response error.

The student instrument consisted of 13 questions that assessed students' international learning experience preferences, perceived barriers and influencers to studying abroad, and gathered information about selected characteristics. Part I of the survey assessed students' willingness to participate in an international experience, type of experience desired, length of international learning experience, and duration of and time of year desired for experience. These questions were structured in a multiple choice format. The second part of the survey assessed students' perceived barriers and influencers to engage in international experiences, students answered these questions on a five point response scale, ranging from *strongly disagree* (1) to *strongly agree* (5). The barrier options used in this research were based on barriers used in research studies by Edgar and Edgar (2009) and Wingenbach et al. (2003). Part II of the survey instrument was comprised of questions about the students' previous international experiences. Part III of the survey instrument gathered students selected characteristics information, classification at the time of the survey, and provided space for students to leave comments. Face and content validity were assessed and deemed acceptable by faculty involved in international programs in the Bumpers College.

The faculty instrument was based on the student survey and was administered to Bumpers College faculty in early spring semester of 2014. Bumpers College had 165 full-time teaching faculty at the time data were collected. Usable data were collected from 85 respondents. The faculty instrument consisted of 11 questions that assessed faculty members' perceptions of international programs, their international program experience, their views on the benefits and barriers to being involved in global experiences, and solicited recommendations for improving Bumpers College's international programs. Barriers in the faculty survey instrument were altered to account for the differences in barriers faculty may face compared to students. At the beginning of the instrument, respondents were asked to read a brief statement noting the Bumpers College international programs mission and the purpose of the survey. Part I of the instrument assessed faculty members' previous international experiences. Faculty members were also asked to list the countries and institutions in which they had previous international experiences. Part II of the survey instrument assessed the relationships associated with global experiences, perceived benefits and barriers to international engagement, and international locations in which faculty members had been or would like to be engaged in the future. These questions were structured in a multiple choice format with the option to select any that apply(ied), with the exception of listing preferred regions for future international engagement, and recommendations for improving Bumpers College international programs.

Data analysis consisted of descriptive statistics, including the computing of frequencies, means, standard deviations, and percentages. Open-ended responses were counted to determine frequency. Data were analyzed with SPSS© version 20.

Findings/Results

A total of 773 students were surveyed from the college of agriculture. All classifications of students were represented in approximately equal proportions: 23.6% freshmen, 27.9% sophomores, 28.8% juniors, and 19.7% seniors. Of the students surveyed, 66.3% were interested in an international experience. Bumpers College students who were interested in an international experience were most interested in general study abroad (52.4%), internships (47.3 %), research (18.2%), study tour groups (17.9%), and finally faculty-led programs (13.5%). Regarding length of stay, students who desired to engage in an international experience chose 4 to 6 weeks (32.2%) more frequently than any other time span; followed by one semester (27.5%), 2 to 3 weeks (23.5%), 7 to 12 weeks (12.6%), 2 semesters or more (2.6%), and one week or less (1.5%). Students were most interested in international experiences during the summer semester (49.8%), followed by spring semester (20.3%), between summer sessions (16.8%), fall semester (13.1%), and winter break (11.5%). Student respondents indicated that their previous international experiences were primarily in European countries (Figure 1). Pins represent each location reported by students.

Figure 1. Geographic locations where Bumpers College students had global experiences.

In regard to individuals who play a major role in influencing a student's decision to study abroad, agricultural students were neutral or disagreed on whether or not parents, faculty, peers, or siblings influenced their decisions to study abroad. Student participants listed parents as the most important influencer ($M = 3.30$, $SD = 1.28$), followed by faculty ($M = 2.95$, $SD = 1.24$), peers ($M = 2.91$, $SD = 1.25$), and siblings ($M = 2.43$, $SD = 1.28$). However, the large standard deviations noted indicate substantial variability in the students' responses.

The students identified cost as the most inhibiting barrier to participating in international experiences ($M = 3.92$, $SD = 1.16$), and they disagreed that the fear of traveling outside of the United States was a barrier ($M = 1.89$, $SD = 1.18$). Additional barriers are noted in Table 1.

Table 1
Students' Perceived Barriers to Participating in an International Learning Experience
(N = 773)

Barrier	*n*	*M*	*SD*
Money	767	3.92	1.16
Time	765	3.60	1.16
Language	764	3.21	1.15
Do not know the opportunities	769	3.04	1.14
Do not know the benefits	767	2.68	1.18
My personal skillset	765	2.60	1.06
Fear of traveling outside the country	767	1.89	1.18

Note. Scale: 1=*Strongly Disagree*, 2=*Disagree*, 3=*Undecided*, 4=*Agree*, and 5=*Strongly Agree*.

A total of 75 Bumpers College faculty participated in the study. When asked about engaging in global experiences in the past 10 years, 76% (*n* = 57) answered *yes* and 24% (*n* = 18) answered *no*. Faculty were asked to describe their relationships associated with global experiences; person-to-person, i.e., faculty in the United States to faculty in another country, relationships had the most responses (86.7%), followed by multi-institutional programs (44.4%), bilateral agreements (28.9%), and U.S. state department programs (13.3%). When asked to identify countries where faculty have engaged internationally, European countries had the most representation in responses (39.3%), followed by Asian countries (22.1%), as represented in Figure 2. Pins on map represent specific countries with experience and not frequency.

Figure 2. International locations where Bumpers College faculty had global experiences.

Bumpers College faculty noted the benefits of being involved in international efforts. Of the 45 faculty who responded to this question, 88.9% found involvement provided value to their respective departments, followed by a tie with value to students (84.4%) and to the university (84.4%), and then to their overall careers (84.4%). Respondents also expressed Bumpers College (82.2%) and their research inquiry (77.8%) received value.

Open-ended comments were included to help understand why faculty chose to work or collaborate abroad. When

asked to identify the areas in which faculty had been or would like to be engaged internationally, 83.0% of responses were research collaboration, followed by educational purposes (79.2%), cultural exchanges (42.4%), distance education to bring experts into the classroom (30.1%), humanitarian efforts (28.6%), and other (13.3%). The other category included technical assistance, administrative facilitation, meetings/presentations, business development, and student exchanges. When asked where they would like to engage internationally, 49.2% of faculty answered

Europe or a European country, followed by South or Central America (21.3%), and Asia (14.4%), which is represented in Figure 3. Pins, in the figure, are representative of region and/or country based on participants' responses. Bumpers College faculty were asked to identify barriers to being involved in global experiences. Money (84.2%) and time (80.7%) were the largest barriers, and 29.8% identified administrative support as a barrier. Table 2 describes faculty members' perceived barriers to engaging in international experiences.

Table 2

Faculty Members' Perceived Barriers to Engaging in an International Experience (N = 75)

Barriers	*n*	%
Money	48	84.2
Time	46	80.7
Administrative support	17	29.8
No global contacts	13	22.8
Not knowing where to begin	11	19.3
Not familiar with campus procedures and policies	10	17.5
Lack of student interest	7	12.3

Figure 3. Geographic locations where Bumpers College faculty are invested in having global experiences.

Faculty were also asked to identify their needs to assist the newly developed International Programs Office (IPO) for Bumpers College, including the use of

funds. The majority of faculty members noted that funds should be used to support both faculty and students (74.1%). None of the faculty respondents answered that IPO

funds should be used to only support faculty. Table 3 shows a complete set of faculty members' responses in regard to where funds should be used. In validation, faculty were asked to provide insight in regard to what the IPO could do to better assist them and their students. The faculty members indicated three primary areas for which they preferred to receive assistance from the IPO: connecting, developing, and funding. The "connecting" responses comprised 37.9% of the full set of responses, and these responses called for the IPO to assist faculty by creating and maintaining connections that would enable them to engage and provide

international experiences. Next, 27.6% of the responses to this question called for developing the IPO to better assist faculty. The responses recommended improved and increased infrastructure in the IPO that would improve the process faculty members' face when engaging in or providing international experiences for students. Finally, 27.6% of the responses to this question indicated that funding would be helpful in assisting faculty; this response pointed toward the need for the IPO to secure and provide funding for international experiences.

Table 3

Faculty Members' Recommendations for Improving the International Programs Office (IPO) of the Bumpers College (N = 75)

Areas	*n*	%
Support students and faculty	40	74.1
Support students and faculty at the discretion of the International Programs Committee	16	29.6
Support students and faculty at the discretion of the faculty; Awards made to faculty and faculty decide on students who should be funded	15	27.8
Support student international research	15	27.8
Support students only	7	13.0
Support faculty only	0	0.0

Conclusions

The fact that more than one-half of the students surveyed in this study were interested in an international experience mirrors previous research that showed international learning opportunities continues to be a growing part of the higher education experience (Institute of International Education, 2013). Drawing from previous literature, these students were likely interested in an international experience for the effects it could have on their future, including increasing awareness of diversity, developing a global perspective, improving their job marketability, and creating lifelong friendships (Kitsantas & Meyers, 2001). The

university targets students with these aspirations by advertising study abroad opportunities that will provide students with skills, abilities, and mindsets to adjust to increasingly globalized markets, potential job insecurity, and occupational mobility (Barnick, 2010).

When choosing to engage in international learning experiences, students must decide which type of opportunity will provide the most benefits and contain the least barriers. Students in the college of agriculture were most interested in study abroad as an international experience. In addition, students were interested in experiences that lasted 4 to 6 weeks. Furthermore, the students surveyed

indicated an international experience in the summer semester would be more desirable than at other times during the academic year. Choices students make regarding their preference in type and length of international experiences were made based on their perception of how well these opportunities fit into their educational timeline (Barnick, 2010). Thus, it seems agricultural students at the University of Arkansas are more apt to consider an international learning experience that does not require a lengthy time commitment, as indicated by the 4 to 6 week preference, and an experience that does not detract from their educational timeline. Also, it was most preferable for students to have a study abroad experience during the summer semester. The findings from this research revealed that respondents believed that the relationship/commitment deterrent was the most critical; this was the only deterrent found in previous research to be negatively associated with the likelihood of engaging in international learning experiences (Payan et al., 2012).

Students' also responded to questions on the survey that assessed their perceptions of barriers and influencers to participating in international learning experiences. The barrier identified by respondents that held the most bearing on their decision was cost. This barrier coincides with previous research that noted students typically make decisions based on two factors—budget and career (Salisbury et al., 2009). The students surveyed placed more importance on budget concerns in our study. Students were least concerned with fear of traveling outside the United States as a potential barrier to participation. This finding is similar to research conducted by Payan and colleagues (2012), which noted that country concerns were not an important barrier to deciding to engage in international learning experiences. Students in our

research indicated that fear of traveling was the least likely barrier to influence them. This supports previous research that found the more connected students feel to a destination country the more likely they were to travel there (Mazzarol & Soutar, 2002). The most impactful influencer of students in our study were parents, which highlights the particularly strong influence family has on school-related decisions (Mazzarol & Soutar, 2002). It is important to note that of the types of influencers listed on the survey instrument, a particularly large spread did not exist between the most influential and the least influential factor. This could be interpreted that Bumpers College students were not highly influenced by the opinions of any one group; yet, use all their resources to assist with decision making regarding international learning experiences.

More than three-fourths of the Bumpers College faculty surveyed had experience in international efforts in the past 10 years, supporting previous research that international programs are gaining more interest and attention among higher education institutions (Andreasen, 2003; Dewey & Duff, 2009; Harder et al., 2012; Salisbury et al., 2009). The majority of the programs established were based on person-to-person relationships between faculty and members of their own professional networks. In past experiences, faculty visited European countries most, followed by Asia, Africa, and South and Central America. Similarly, when asked where they would like to engage in future international efforts, Europe lead faculty preferences, followed by South and Central America, and Asia. Faculty members' expressed that participating in international efforts added personal or professional value for their students learning in the courses they teach; supporting previous research that faculty support students' participation, and that

these programs influence their teaching, research, and career appointments (Dooley et al., 2008; Hand et al., 2007). Faculty members' noted that their participation in international experiences added value to Bumpers College, the University of Arkansas, as well as their respective departments, students, research programs, and to their careers. Regarding future international efforts, faculty members' preferred to engage in research collaboration and educational purposes. The strongest barriers to faculty members' participation in international programs were money and time, which was also found in previous research (Andreasen, 2003; Dewey & Duff, 2009). These perceived barriers may be a result of universities not recognizing faculty participation in international programs when making tenure and promotion decisions, and not providing adequate funding for programs.

Recommendations

Conclusions gleaned from the findings of this study led to three pertinent recommendations for providing international experience opportunities for agricultural students at the University of Arkansas. First, if the Bumpers College wants to put more emphasis on international opportunities and the learning afforded through them, it should seek out and provide opportunities for their students that hold value other than what they can gain in the curriculum at the university (Kitsantas & Meyers, 2001). A key concept of learning under social cognitive theory is that students must be able to alter their environment and assign meaning to an experience (Bandura, 1986), however, students cannot begin to do that unless opportunities for such an experience and the meaning attributed to it are accessible to students.

Next, Bumpers College students were more interested in international

experiences that fit into a short-term time commitment and did not require time out of their preconceived educational timeline. Applying the social cognitive theory lens once more, student forethought is key to learning (Bandura, 1986), and, in this context, agricultural students focus on commitment and timing as the primary areas of forethought. To improve the learning capacity of international experiences, the Bumpers College should address these areas of forethought to improve the likelihood students will engage in international learning experiences. In application, this means that the IPO must educate students on the benefits, outside of convenience, when making plans to participate in international learning experiences. The college should focus on recruitment messages that identify the value of traveling on these international learning experiences. That messaging could focus on the value of diversity, development of global perspective, the importance of international understanding (Kitsantas & Meyers, 2001), greater competitiveness in the job market after graduation, increased language proficiency, and lifelong friendships (Kitsantas & Meyers, 2001), as well as the benefits of learning in that specific country.

Finally, Bumpers College should invest more time into making students aware of financial funding opportunities available and work to secure more financial funding and scholarships so the influence of the major deterrent revealed by this research— cost—can be lessened. Following these recommendations will partially fulfill the need for educators to support student participation in international learning experiences noted in previous research (e.g., Wingenbach et al., 2003). In addition, following all of these recommendations would create awareness of international agriculture, which is an important competency for agricultural students

entering the workforce (Edgar & Edgar, 2009) and something that many universities are working toward.

Implications for Future Focus at Our University

The conclusions gathered from the faculty members' survey findings support three key recommendations for enabling faculty to engage in international experiences. Faculty appear to work primarily in Europe, Asia, Africa, and South and Central America and wish to work in Europe, South and Central America, and Asia in the future Due to limited funding for international experiences, it is recommended that the University of Arkansas and Bumpers College focus funding and program establishment on areas with the strongest connections and interest among faculty. By focusing funding and strategic opportunities on areas with strong connections and interest, both faculty and students could benefit financially and professionally.

Next, faculty members' perceived benefits of international efforts add value to their careers, research endeavors, students, departments, the college, and the university. However, international engagement is not recognized in many universities' tenure and promotion decisions (Dooley et al., 2008), including decisions made at the University of Arkansas, which has a goal for 25% of graduating seniors to complete an international experience (University of Arkansas Annual Report, 2013). The University of Arkansas and Bumpers College should include international experiences of faculty members in these decisions to reinforce the value declared for international efforts.

Finally, to meet goals for university internationalization, higher education institutions, in particular, the University of Arkansas should offer financial

opportunities for faculty members to participate in and expand international programs (Dooley et al., 2008). The Bumpers College IPO has limited funding to offer faculty and students; therefore, the university should explore offering financial support such as travel grants and international sabbaticals for faculty, scholarships for students, and building networks that could contribute to financial needs in the primary focus areas expressed by faculty members. These recommendations address barriers to faculty engagement abroad, recognize benefits offered to faculty by these experiences, and encourage internationalization among faculty. Following these recommendations may result in student integration through faculty-initiated and led programs, contributing to meeting the University of Arkansas' goal for student participation in international learning experiences.

Based on the findings of the student section of this study, future research on the topic of student influencers and barriers to participating in international experiences should focus on gaining a more complete understanding of the range of factors students consider. Students' responses to the influencers and barriers presented in this study yielded results that showed none of the options were particularly notable. This finding may provide insight into assessing influencers and barriers more precisely, which may improve the opportunities offered to students to gain international experiences through their higher education. Research also should be conducted to assess why students were interested in international learning experiences, not necessarily what influences decisions their participation or keeps them from an international experience; this could take the form of qualitative research. Further research could explore reasons why universities do not consider international experiences in tenure

and promotion decisions and provide insight on how to incorporate such efforts in that decision process. In addition, more research should be conducted to better understand faculty needs that could be addressed to improve their international experience opportunities at higher education institutions.

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Motivations to Study Abroad: A Case Study of the College of Agricultural and Life Sciences Agribusiness Short-Term Study Abroad Program

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Abstract

The purpose of this study was to gain a better understanding of the student participants' motivations to partake in a short-term study abroad experience. This was an observational case study of the North Carolina State University College of Agricultural and Life Sciences Agribusiness Short-Term Study Abroad Program with the 2014 program student participants. The study explored student participants' motivations to participate in a short-term study abroad program. This study found students were motivated to participate in a short-term study abroad program because of the short-term length aspect, the completion of course credits, and encouragement from other people, both other students and faculty.

Keywords: Study abroad, Short-term study abroad, Student Motivations, International Experiences

Introduction

Our society is developing an increasingly international focus, requiring people within the university to globalize in order to stay current (Nehrt, 1993). According to many scholars, globalizing undergraduate education programs is gaining importance (Bruening & Frick, 2004a) and all undergraduate students need to have a strong international experience before they graduate (National Association of State Universities and Land-Grant Colleges [NASULGC], 1997). In order to improve student success and enhance student engagement, Kuh (2008) stated universities must, "make it possible for every single student to participate in at least two high-impact activities during his or her undergraduate program, one in the first year, and one taken later in relation to the major field" (p. 21). One high-impact educational activity Kuh speaks of is diversity/global learning.

The main goal of international education is to produce graduates with global perspectives (Pickert, 1992). One component of international education is study abroad (Tritz & Martin, 1997). Brooks, Frick, and Bruening (2006) suggested colleges of agriculture should consider the importance of study abroad and consider making it a mandatory experience for all students. Studying abroad is the best way for undergraduate students to gain international perspectives in agricultural studies programs (Brooks, Frick, & Bruening, 2006). Briers, Shinn and Nguyen (2010) stated faculty should be focused on creating and organizing experiences to provide global opportunities.

Briers et al. (2010) found students are most motivated to participate in an international experience based on how much the international experience will contribute to their overall life experience.

Having the opportunity to live in another country or culture was also a motivating factor for students. Furthermore, students were motivated to study abroad since international experiences look attractive on resumes (Briers et al., 2010). Jarvis and Peel (2008) completed a study inquiring about students' motivations to study in another country. The top motivations revealed were: the wish to broaden their awareness of the world, the desire to travel and study in another country for a long time, the wish to meet new people, and the desire to experience another culture (Jarvis & Peel, 2008). Other motivations included: studying abroad seemed like a challenging experience, they wanted a change from their everyday home life, they heard positive comments from friends about studying abroad, and lastly they viewed it as a way to enhance their career opportunities (Jarvis & Peel, 2008).

International experiences help students understand other cultures while widening their worldview by showing them their previous perceptions and understanding of other countries and cultures were narrow (Bruening & Frick, 2004b; Zhai & Scheer, 2002). Participants in a study by Kasravi (2009) recognized several benefits including personal development, a better self-knowledge and understanding, flexibility, cultural knowledge, international knowledge, motivation, and career development. Kitsantas (2004) noted studying abroad enhanced cross-cultural skills, helped the participants become more proficient in subject matter, and improved their socializing skills.

Another recognized benefit includes increased employment opportunities. When students enter their careers with a global view, global perspectives and knowledge of other cultures, students have an advantage over

ones who do not have this experience and knowledge (McGowan, 2007). Briers et al. (2010) show studying abroad improves competiveness in the global market. Due to the increase of U.S. jobs that involve international trade, Bruening and Shao (2005) emphasized the need for an increase in international study. Large companies that work with other countries value and look to hire culturally diverse employees with language skills (Acker & Scanes, 1998). Almost all jobs in the future will require or benefit from employees that have a global understanding and awareness (Bikson, 1996).

Theoretical Framework
Theory of Planned Behavior

The theoretical framework guiding this study was informed by two theories, the Theory of Planned Behavior and the Two Factor Theory. The Theory of Planned Behavior (Ajzen, 1991) states a person's attitude toward a behavior, the subjective norm, and the perceived control of a behavior can lead to intentions which can then predict human behavior (Ajzen, 1991). Ajzen (2006) states as a rule for the theory, "the more favorable the attitude and subjective norm, and the greater the perceived control, the stronger should be the person's intention to perform the behavior" (p. 1). In relation to this study, student behaviors about studying abroad, their subjective norms, and perceived control over the international experience can predict their intentions of studying abroad.

Herzberg's Motivational Theory

In Frederick Herzberg's Two Factor Theory, Herzberg noted two separate groups of factors that have a strong impact on motivation. These factors are usually related to satisfaction or dissatisfaction. Herzberg refers to hygiene factors as preventative methods to reduce the risk for dissatisfaction. Opposite of these hygiene factors are the motivational factors, which can result in satisfaction and productivity. These motivational factors include things such as recognition, achievement, and growth (Herzberg, Mausner, & Snyderman, 1959). Study abroad programs are new and interesting opportunities for students, which may motivate students and create internal satisfaction, ultimately increasing their productivity in their academic careers and future employment.

Purpose and Objectives

The purpose of this study was to gain a better understanding of the participants' motivations. The findings from this research will provide valuable insight to utilize in the continued and future planning of short-term study abroad programs. The specific research objective was to explore student participants' motivations to participate in a short-term study abroad program.

Methods/Procedures
Population and Sample

North Carolina State University College of Agricultural and Life Sciences Agribusiness 2014 Short-Term Study Abroad Program in the United Kingdom was the focus of this study. This short-term study abroad program was started in 2011, with the desire to give students the opportunity to compare agribusiness techniques in the United States with the methods used in other countries, such as the United Kingdom, and with the desire to create more international opportunities for the faculty and students at North Carolina State University. Since the creation of the program, 113 undergraduate students have participated in the international experience.

The population for this study consisted of all of the student participants of the 2014 College of Agricultural and Life Sciences Agribusiness Short-Term Study Abroad Program to the United Kingdom ($N = 24$). A census study was conducted with a final $N = 23$ as the accessible population. All of the program participants were enrolled in the undergraduate North Carolina State University course ARE 494 or AGI 194 and received three credit hours.

Data Collection

This descriptive qualitative study utilized observational case study research. Case study is considered a bounded system and is viewed as an object instead of a process (Stake, 1995; Creswell, 1998; Merriam, 1998). A benefit of case study research is that it allows researchers to preserve the significant and holistic characteristics of real-life experiences (Merriam, 1998; Yin, 2013). Due to the importance of the context related to this research study, combined with the unique nature of the study abroad program and participants, a case study method was selected.

During the first class meeting of the ARE 494/AGI 194 course during the spring 2014 semester, the students consented to participate in the study. On the same day, the participants completed the first written questionnaire in class, which was distributed by the researcher. Throughout the semester before their time abroad, students answered other short writing prompts during class. Two weeks prior to the students' international experience, focus groups were held. Focus groups allow for interactions in groups, generating rich data and information about a specific phenomenon (Creswell, 2005; Morgan, 1997; Patton, 1990). Focus groups promote an environment allowing for discussion

"designed to obtain perceptions on a defined area of interest in a permissive and non-threatening environment" (Krueger, 1988, p. 18).

The focus groups took place on-campus during the ARE 494/AGI 194 class time. The class was randomly divided into two groups, with one focus group having eleven participants and another having twelve, which followed Krueger's (1994) suggestion of having focus groups range from four to twelve participants per group in order to allow for participant discussion and proper management. A second round of focus groups was held the week after the students returned from their travel. The researcher recorded the focus groups using voice recorders. The researcher and course professor also took notes to record the participants' statements. The voice recordings were saved onto the researcher's computer and were transcribed verbatim.

As a requirement of the ARE 494/AGI 194 course, the students maintained a journal about their experiences while abroad and their reflections upon return. Studies have proven journaling strengthens, deepens, and enhances student learning (Brockbank & McGill, 1998; Zhao, 2003; Gouldthorpe et al., 2012). The researcher also had access to the student participants' applications to the study abroad program. The researcher highlighted key points relating to the study objectives in the journals and applications and recorded them in an Excel file. The responses from the journals and applications were stored anonymously.

Instrumentation

The first instrument used for this study was a questionnaire administered at the beginning of the semester to the ARE

494/AGI 194 students during designated class time. This questionnaire was created by the researcher and designed specifically for this study and its participants. It contained twelve open-ended questions regarding the student participants' demographic information, professional goals, travel experiences, agricultural background, interest in studying abroad, and expectations of the study abroad program.

Throughout the following weeks of the semester, several preflective activities were facilitated to inquire about interest in studying abroad, interests in this specific program, and motivations for studying abroad. Two weeks prior to the students' international experience, focus groups were held on-campus during the ARE 494/AGI 194 class time. The class was split into two groups; one focus group was led by the researcher and one by the class professor. The planned focus group questions were open-ended and related to their interests in studying abroad and their expectations. After returning from their time abroad, another round of in-class focus groups were held where students reflected on their experiences abroad.

Data Analysis

The responses to the open-ended questions were analyzed by a coding process. Based on the recommendations of Merriam (2009) the coding was broken down to categorize segments of data into broader themes. These themes assisted in making meaning and answering the research questions pertinent to the study. The researcher searched for common themes related to the participants' motivations for studying abroad. Subthemes were identified within the common themes in order to describe the findings in more detail.

Trustworthiness Criteria

Lincoln and Guba (1985) assert qualitative research can be evaluated through credibility, transferability, dependability, and confirmability. Confirmability was addressed in this study by including excerpts of the raw data which illustrate the findings and conclusions. Confirmability and dependability were also met by the audit trail of the researcher, which included audio recordings, field notes, and questionnaire results, which were appropriate for improving the trustworthiness of the data (Dooley, 2007; Merriam, 2009).

Triangulation is a common method in qualitative research, which is the use of multiple methods of data collection to ensure the meaning of the data is clear and valid (Creswell & Miller, 2000). To increase the trustworthiness of the study, triangulation was used by having a variety of data collection methods: written questionnaires, oral questionnaires, focus groups, applications, and journal entries. Yin (2003) and Creswell (1998) view having multiple sources of evidence as the most crucial point for case study methodology because any finding in a case study that is based upon more than one source has higher credibility.

Results
Characteristics of the Population

The population of the 2014 North Carolina State University College of Agricultural and Life Sciences Agribusiness Short-Term Study Abroad Program was made up of 48% ($n = 11$) male student participants and 52% ($n = 12$) female student participants. Student participants ranged from ages 18 to 39 with a mean age of 21. All participants were enrolled in North Carolina State University as an undergraduate four-year student or as a North Carolina State

University two-year student. Four of the student participants were enrolled in the Agricultural Institute seeking an Associate of Applied Science degree, three in the first year of their degree and one in their second year. The remaining students were enrolled as undergraduate students earning a Bachelor of Science degree and included four freshmen, five sophomores, eight juniors, and two seniors from the undergraduate program. A variety of majors were represented. The most common major was Agribusiness Management ($n = 9$). There were four Animal Science majors, three Poultry Science majors, two Livestock and Poultry Management majors, and one student in each of the following majors: Plant and Soil Science, Genetics, Agricultural Education, Agricultural Science, and Food Science.

Findings

The objective of this study was to explore student participants' motivations to participate in a short-term study abroad program. The common themes that emerged included the short-term length aspect, completion of course credits, promotion through personal interactions, and experiences.

Theme One: A Short-Term Length Aspect

The first major theme to emerge from the participants' motivations to participate in a short-term study abroad program was the short-term length aspect of the program. Several subthemes emerged specific to the motivation from the short-term length. One of the subthemes mentioned described how the discovery of a ten day short-term program generated interest in studying abroad.

I can honestly say that freshman year I made my mind up not to study abroad because I thought all of the programs were for a whole semester and I didn't like being gone that long. But, when I learned it was only ten days I got a little more accustomed to the idea and I thought that it would be fun to see another place in the world.

Another subtheme identified this particular study abroad experience as a foundation leading to future, long-term trips abroad. One participant stated, "Short-term programs have more structure. I am thinking about doing a long term study abroad program later but first I wanted to do this because there is a lot more structure in short-term programs."

The third subtheme noted was a lack of desire to stay away from home for a long period of time. Several students echoed the sentiment, "I do not [like] being away from home for long periods of time." Another student mentioned their time commitment associated with their duties at home, "Because of obligations I have back on the family farm I would be unable to go on a [study abroad trip for the] entire semester. This short trip works perfectly with my schedule."

The fourth subtheme observed was the perception of a diminished risk associated with short-term study abroad programs. The short duration of the experience contributed to these perceptions, which was evident in the following participant's statement, "I feel like there is less risk involved. I am kind of scared to leave somewhere for an entire semester and go somewhere new." Another supporting statement was, "Going somewhere for ten days isn't intimidating. If you get over there and didn't like it, it's only ten days till you're back at home."

Theme Two: Completion of Course Credits

The second theme that emerged when examining student participants' motivations to participate in a short-term study abroad program was the completion of course credits. An emerging subtheme was how the short-term study abroad program fit into their degree plan. Two students had similar responses of, "It's the only [study abroad program] available to me" and "It was the only [study abroad program] that my degree program would allow me to do."

Another subtheme emerged related to the timing of the program. Students noted they favored the program being offered over spring break through statements such as, "I like the fact that they are over spring break and you don't miss any classes that way" and "I chose this program in general because I like the fact that it is only in spring break. Normally I don't do anything in spring break but work so it is something fun to do."

Theme Three: Promotion through Personal Interactions

The third emerging theme was the importance of personal interactions in encouraging students to participate in the short-term study abroad program. Two types of interactions were deemed as important: student-to-student and student-to-faculty. The first subtheme under promotion through personal interactions was specific to the interactions between students. Many participants stated they chose to study abroad in this program because of comments from past participants. One student stated, "I had heard a lot of people that had went through the program in the past say it was the best experience and that they would go back right now if they could." Another student expanded "I'd heard about the trip from people that went in the past and they said it was great. I always wanted to

go to Europe anyways so I figured this would be my best and only opportunity to go."

Some students noted the importance of faculty which motivated them to participate in the program, which is contributed to the development of the second subtheme. One student noted, "I was talking with my professor and he said I should go for it." Another student expanded,

> I chose to study abroad because of Dr. Campbell. I had first met Dr. Campbell in his Agricultural Law class that he offered this fall. He has impressed upon all of us how very great an opportunity this trip is for us and how easily obtainable the costs are. I had never planned to study abroad for fear of the costs but he broke down the different ways that you may be funded and I was more at ease with the idea of paying for the trip. I have always wanted to see other areas of the world and now I am really excited that I am able to with my North Carolina agricultural peers.

Theme Four: An Experiences Aspect

The fourth theme that emerged when examining the student participants' motivations to participate in a short-term study abroad program identified opportunities to engage in different experiences. One subtheme noted was travel and cultures. One student elaborated on travel through the statement, "Short-term study abroad allows a taste of a different country. It inspires but does not overwhelm the traveler." An additional comment was,

> I have chosen to study abroad because I come from a very small and rural community. I have grown up seeing people who have never even really been

out of the state and I decided a while ago that I am not that type of person. I want to see the world even if it is just this one trip.

Another subtheme that emerged was that of content based experiences, such as agricultural or agribusiness experiences. One student offered the following response when asked about their motivations to participate in the short-term program:

> When I first came to N.C. State and heard about traveling abroad, I never saw myself as going that far away from my hometown in Johnston County. That all changed when I found out about the amazing opportunities to visit and explore another place's agriculture. I also hope that I get a chance to learn something that I could bring back to my own farming operation that would be beneficial to our resources.

Conclusions

Students were attracted to this short-term study abroad program because of the length of the program. Students found the short duration of ten days appealing. This study abroad program was also seen as attractive since it was over spring break and students did not have to miss class. These findings supported prior research reported by Zhai and Scheer (2002) and Bruening and Frick (2004a). Students that do not wish to stay away from home for an extended period of time considered short-term study abroad programs to be an ideal opportunity. Short-term study abroad programs are an attractive option for students who have too many obligations at home to leave home for a long period of time. Students were also motivated to participate in this short-term study abroad program because they viewed it as a chance to see if they might possibly enjoy a long-term stay abroad. Students viewed short-term study abroad programs having less risk than long-term study abroad programs because there was less time invested abroad and away from home.

Some students were encouraged to participate in this study abroad program through interactions with others. Several positive interactions, like the conversations held with peers who had previously participated in the program, served as a motivator for current students. This is similar to previous findings by Zhai and Scheer (2002). Past participants enjoyed their study abroad experience and shared that enjoyment with potential program participants, which is related to Herzberg's (1959) Two Factor Theory when discussing how personal growth leads to motivation and satisfaction. As stated in Ajzen's Theory of Planned Behavior, the more positive discussion of the program leads to a stronger desire to participate in the program (Ajzen, 2006). Professors also motivated students to participate in this short term study abroad program. This encouragement from the professors could be viewed as expectations from others, which would be considered a normative belief (Ajzen, 2006).

When agriculture majors at North Carolina State University are contemplating a study abroad program, there are not many options that help fulfill their degree requirements. Brooks, Frick, and Bruening (2006) discovered similar findings with other agriculture majors at a different institution. One reason participants were motivated in this particular study abroad program was the chance to complete course credits which are under the required category of General Education Global Knowledge courses. This program was the only study abroad option to help meet the curricular

hour needs of students. Having a short-term program containing three hours of course credit was appealing to students, which is supported by Herzberg's Two Factor Theory (1959).

Recommendations/Implications
Recommendations for Future Practice

With the noted importance of personal interaction, past program participants should be recruited to talk to potential student participants about the study abroad program as a way to influence and motivate more students to participate in the program. A study abroad peer presenters program should be formed in colleges of agriculture. All of the peer presenters could be utilized to promote study abroad opportunities through informational presentations to classes and students specifically in the college. This ambassador-type program will also provide the peer presenters with leadership and public speaking skills. Professors should also take the time to identify and encourage students who would be good candidates for a study abroad experience.

Universities need to encourage and provide opportunities in regards to course release or funding to encourage faculty to participate in global opportunities. Having faculty who support and encourage study abroad opportunities is important. Faculty in colleges of agriculture should become more involved in the study abroad opportunities, either through their own participation or encouraging students and/or advisees to seek out global programs.

More short-term study abroad programs with an emphasis on agriculture should be developed and offered. This Agribusiness Short-Term Study Abroad Program could serve as a model for these future study abroad programs. Since

students placed importance on having a study abroad program relating to their majors and fields of study, the development of additional short-term study abroad programs should occur in colleges of agriculture.

As new programs are developed, faculty should be made aware of the various study abroad opportunities so promotion for degree-related short-term study abroad programs could occur through the departments within colleges of agriculture. Undergraduate coordinators play an important and active role in informing the faculty of their departments about the available agriculturally related study abroad opportunities and how they fit into students' degree plans. Undergraduate coordinators should also understand how to substitute courses from institutions abroad for required classes at their university.

Since participants noted the importance of fulfilling course credits, new degree-related short-term study abroad programs could be created to fit curricula within colleges of agriculture. Faculty advisors throughout colleges of agriculture should be given displays or brochures with detailed information about how their advisees can study abroad while fulfilling their degree-related required courses at the same time. Underclassmen, especially freshmen, should be informed early in their academic career about the short-term study abroad options available so they can plan in advance for future study abroad programs. Additionally, participants noted possible interest in participating in a longer-term study abroad program in the future. Some younger students may have a similar interest. By becoming aware of the different options for long-term and short-term study abroad programs, students

could possibly have the chance to participate in both over the course of a college career. Participants also noted the ideal timing for this study abroad trip. As a result, short-term programs during spring break should be continued to be held because they reach students who cannot be away from home for an extended amount of time.

Recommendations for Research

A multitude of opportunities exist for future research. Pre-trip and post-trip focus groups should be held for the future short-term study abroad programs as a way to understand the participants' motivations and experiences. A five and ten year follow up study could be conducted with these same participants from this study to see how this short-term study abroad program influenced their remaining school experiences and career interests/goals. A similar study should be carried out with the future participants of this same program each year to see if the same motivations and expectations arise.

Additional research should be conducted to examine how location of an agriculturally related short-term study abroad program encourages or discourages student participation. Additional research could also involve comparable agricultural short-term study abroad programs at North Carolina State University to see if participants share similar motivations and expectations. A similar study could also be conducted with short-term programs offered through colleges of agriculture at other universities.

Students' motivations could also be examined during the completion of study abroad programs with different lengths and/or objectives. For example, research could be conducted with students who elect to participate in a long-term study abroad program or a

program with a service-based focus. Finally, future research with business and industry would be important to assist in the development of competencies that are important to be gained during study abroad.

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Impact of Teachers on an Australian Community Over Ten Years: A Qualitative Study

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Abstract

The purpose of this study was to use intensive interviews to evaluate the impact of American teachers on a rural community in New South Wales, Australia from 2005 to 2015. The study analyzed interviews with 10 participants of the Australian community. Survey participants were chosen based on their longevity in the community and their community involvement. Two researchers and a peer reviewer transcribed, coded, and categorized the data into themes suggested by the interview participants using participatory action research. Results from this study identified two major themes: impact on student growth and sense of community, and eight subthemes: student performance, international growth, culture, perceptions and stereotypes, values, pre and post impressions of American teachers, involvement within the community, and community acceptance.

Keywords: Community impact, cultural perceptions, stereotype

Introduction/Theoretical Framework

Globalization refers to a full range of factors that are sweeping across the globe unhindered by boundaries and policies of a nation-state (Dator, Pratt, & Seo, 2006; Etling, 2001). With increased globalization, society places greater attention to increasing understanding of stereotypes, cultural awareness, and language barriers (Bunch, Stephens, & Hart, 2011; Etling, 2001). Globalization and culture represent key elements of change in the modern world (Etling, 2001; Greig, 2002). Berry (2008) stated, "…globalization is initiated by intercultural contact and leads to cultural and individual change" (p. 328).

An individual's culture plays a significant role in his/her self-perception. Accordingly, people classify themselves and others into various social categories, and prototypical characteristics theorized from the groups' members to define these categories (Ashforth & Mael, 1989). According to Hogg and Reid (2006), "social categorization *depersonalizes* our perception of people – they are not viewed as unique individuals but as embodiments of the attributes of their group" (p. 10). Therefore, impressions of individuals can lead to perceptions of the group as a whole (Tajfel, 1982).

Stereotypes—or prejudices—refer to prejudgments reached before relevant information has been collected (Tajfel, 1981). Although individuals form stereotypes, their implications emerge from the context of group membership (Bar-Tal, 1997). For example, Bunch, Stephens, and Hart's (2011) study on the impact of American teachers on an Australian community found that cultural awareness brought about by the presence of the American teachers disputed some of the stereotypes that Australians had towards Americans. Collectively, socializing members, including parents,

grandparents, and other extended family, not only pass stereotypes to younger generations but create a climate that serves as a facilitator of stereotypical contents in communities (Bar-Tal, 1997).

Communities are fundamental contexts for human activity (Wiesenfeld, 1998). Wiesenfeld (1998) defined community as a "homogenous group of individuals, clearly distinguishable from others" (p. 337). Two major categories of community include the territorial notion and the relational notion (McMillan & Chavis, 1986). The territorial aspect of community refers to geography in terms of neighborhood, town or city, while the relational notion of community refers to the quality of human relationship without reference to location (McMillan & Chavis, 1986). In addition, there are four criteria that define a sense of community: membership, influence, integration and fulfillment of needs, and shared emotional connection (McMillan & Chavis, 1986).

Community membership is a feeling of investment of oneself to become a member and achieve a sense of belonging and a feeling of being a needed part (McMillan & Chavis, 1986). In order to determine who is a community a member, the attributes sense of belonging and personal investment are used (Chavis, Hogge, McMillan, & Wandersman, 1986). According to McMillan and Chavis (1986), sense of belonging includes "the feeling, belief, and expectation that one fits in the group and has a place there, a feeling of acceptance by the group, and a willingness to sacrifice for the group" (p. 10). In addition, personal investment plays a large role in developing emotional connections with community members (McMillan & Chavis, 1986). This investment, along with a sense of belonging, emotional safety and security,

and set boundaries contribute to who is a part of the community and who is not (McMillan & Chavis, 1986).

The concept of influence is bidirectional, with the first direction involving a member being attracted to the group and having influence over what the group does which can generate conflict (McMillan & Chavis, 1986). This conflict can lead to either competition or cooperation. In competitive situations, an individual does not reach a goal unless all other individuals are unable to reach their goals, whereas in cooperative situations an individual does not reach a goal unless all other individuals participate in reaching the equivalent goal (Grossack, 1964). Furthermore, cooperation leads to more cohesive behavior, attempts of influence, uniformity, and communication versus competition (Grossack, 1964).

Fulfillment of basic needs promotes positive, caring, and helpful human relations (Staub, 2003). In addition to the basic human needs, benevolence and conformity are universal requirements of human existence from a social standpoint (Roccas, Sagiv, Schwartz & Knafo, 2002). Sharing the same values of needs, priorities, and goals with others fosters the belief that joining together can better satisfy these needs (McMillan & Chavis, 1986). The sharing of needs also leads to group cohesiveness because groups with a sense of community benefit individuals by fulfilling both group and individual needs (McMillan & Chavis, 1986). Overall, a community is considered 'strong' when it is able to "fit people together so that people meet others' needs while they meet their own" (McMillan & Chavis, 1986, p. 13).

Shared emotional connections affect a sense of community because it offers members positive ways to interact, events to share, positive resolution to events, opportunities to honor members, personal investment within the community, and a strong spiritual bond (Chavis et al., 1986). In terms of emotional connection, different aspects affect interaction. McMillan and Chavis (1986) stated that "the more people interact, the more likely they are to become close" (p. 13). However, general interaction does not guarantee cohesiveness, but if the experience is more positive, the bond is greater (McMillan & Chavis, 1986).

Communities are unique and being a member of a community requires one to adapt and adjust to several influences within that community such as values, beliefs, and goals (McMillan & Chavis, 1986). Those factors can only be truly understood by being immersed in that particular community and studying the individuals which comprise the community. The researchers were able to locate various studies on the impact and perspectives of individuals who participated in international programs (Black, Moore, Wingenbach, & Rutherford, 2013; Farrell & Suvedi, 2002; Harder & Bruening, 2008; Lawver & Soto-Cruz, 2007; McGowan, 2007; Sharp & Roberts, 2013; Shoulders, Barrick, & Myers, 2011, Zhai & Scheer, 2002), but no studies were found that focused on the impact that an international experience could have on community members.

Purpose and Objectives

The purpose of this study was to evaluate the impact of American teachers on the local Australian community over a 10 year duration. The specific research question asked was, "How have American teachers impacted the Australian community over 10 years?"

Methodology and Procedure

Participatory action research is focused on facilitating change in the participants as well as the researcher during the research process (Hays & Singh, 2012). Kidd and Kral (2005) stated that "participatory action approaches are likely the best way to generate knowledge and action that is meaningful for the people involved and make it more likely that researchers may be invited to contribute to those communities" (p. 191-192). One of the basic principles of participatory action research is to reflect on the information gathered as a validity check (Hays & Singh, 2012). Participant observation, interviews, field notes, logs, and document analysis are the forms of research collection in participatory action research used in this study.

Two researchers spent 12 weeks in an Australian community in New South Wales, Australia during fall 2014 and participated in community events and cultural activities such as weekly dinners, social gatherings at local venues, festivities at community members' homes, and local sports functions. Furthermore, the researchers spent an extensive amount of time within the Australian school system with administrators, teachers, and students.

In addition to participating in community activities, the researchers kept an in-depth reflection log, analyzed community and school documents to better interpret the community climate, kept a field log of overall observations of daily community member interactions, and conducted formal and informal interviews with community members. Prior to interviewing, each participant signed an informed consent statement. The central research question was asked to each participant and based on comments from each participant, follow-up questions proceeded. After each interview, the researchers recorded notes about the interviewee responses, impressions of the interviewee, and reactions of the interviewer to the interviewee.

Conversations were conducted informally and formally over the duration of 12 weeks with several members of the Australian community, and individuals (*n*=10) selected to participate in this study was based on their community involvement. In addition, some of these community members were interviewed in the Bunch, Stephens, and Hart (2011) study and others were chosen until data saturation was accomplished. The community members selected were from the local school system, business affiliates of the community, and impactful participants in the community. Each participant was assigned a pseudonym to protect his or her confidentiality. The principal and deputy principal, Caleb and Ryan, respectively, were selected as representatives of the participating school. The selection of participants who represented the community were two agriculture teachers (Scarlett & Oliver), three support members of the school and community (Joseph, Claire, & Lillian), and one individual politically affiliated with the school and community (William). Finally, two area businessmen (John & Miles) were selected because of the strong business connection within the community. The interview recordings were transcribed and analyzed by both researchers and peer reviewer. The researchers and peer reviewer then categorized data into themes before comparing notes and agreeing on themes and subthemes within the data.

Trustworthiness is established through credibility, transferability, dependability, confirmability,

authenticity, and coherence (Hays & Singh, 2012). Credibility was prominent through the researchers maintaining a journal that included thoughts about the impacts of the research on the research process, participation within the community on the researcher, and the researcher's presence on the community. A peer reviewer (a university faculty member trained in qualitative research) looked for consistency between participant responses, researcher observations, notes, and conclusions, which represented dependability. The use of interviews, related literature, reflexive journal, prolonged engagement (12 weeks), and thick description was utilized to maintain transferability. Confirmability was established by participants conducting a member check of the transcribed interviews and data analysis.

Researcher Bias

Since the researchers in this study were members of the Australian community and school system, the researchers acknowledged that personal biases existed. Before traveling to Australia, the researchers' preconceived thoughts about Australians were stereotypical. In the United States, Australians are believed to act similar to *Crocodile Dundee,* only drink Foster's beer, and always cook on the *barbie*. Additionally, it was believed that Australians would speak the same English as Americans but with an accent. Preconceived notions about Australia involved the thought that kangaroos would be in all environments, all animals and insects were deadly and would continuously be surrounding us, and the entire continent of Australia is mainly red desert. However, the Australians were extremely genuine people who held careers and life-long plans just as Americans. Australians also do not just

drink Foster's beer contrary to popular belief in the United States. Moreover, they use more than the *barbie* for cooking. While Australians speak English, they have a vast amount of slang, strong, thick accents, and speak very quickly although the researchers were able to properly understand the Australian language in one week. Furthermore, kangaroos were not seen until the researchers left Sydney, and they were not running everywhere. More emus and mountain goats were seen freely wandering around rather than kangaroos. Additionally, the researchers only had one encounter with a deadly spider throughout the entire 12 weeks in Australia. Lastly, Australia is not one big, red desert despite how the movie *Kangaroo Jack* portrays the land. The community where the researchers spent their time was in *the outback,* which included desert-like conditions, but it was not solid red like the researchers imagined.

Given that the researchers were members within the community for the duration of 12 weeks, the researchers desired the impact on the community be positive. The researchers spent extended time with several community members and knew them on a personal level. Therefore, when analyzing the data, the researchers' had a faculty member, who is extensively knowledgeable in qualitative research, examine the data as well. In order to bracket the researcher bias, the researcher's own beliefs were put into abeyance for the analysis of the data. Furthermore, to ensure validity a feedback loop was used whereby the interview transcriptions were returned to the participants to ensure that the researcher had not misinterpreted the data.

Findings

Based upon the responses from the interviewed participants, the researchers' field notes, and activity logs, the researchers discovered two emergent themes, which were the impact on student growth and sense of community. Within those two emergent themes, eight subthemes also surfaced. The subthemes of student growth included student performance and international growth, and the subthemes of sense of community included culture, perceptions and stereotypes, values, beginning impressions of American teachers verses current impressions, involvement within the community, and community acceptance.

Student Growth

Student performance

Student growth was revealed from participants as it was related to student performance. Most participants noticed an increase in student performance resulting from the presence of American teachers. Scarlett stated, "I think they (Australian students) actually got their work done a lot faster than what they were previously, and I think they seemed to enjoy the class a lot more having someone different in the room." Not only did the presence of American teachers have an impact on students who were enrolled in agriculture classes but also students from other classes as well. Scarlett specified, "I think the kids are a lot more interested to come to class because they knew you were going to be there. Even kids wanted to come to our class out of other classes towards the end." Furthermore, many students who were associated with past behavior problems became more intrigued with the subject matter and class participation.

Those kids, to me, looked a little

more interested in the subjects whilst there tends to be lots of behavior problems from the agricultural side of things, and they are not always engaged but just listening to them. They have certainly picked up something from you being here, and I am assuming that it also opened their eyes a little bit to what goes on. (Ryan)

Joseph, Scarlett, Oliver, Caleb, and Ryan agreed the increase in student performance resulted from having an educator present who was culturally different. Joseph stated, "I think they learn different aspects and different things you bring from another country and learn that our way may not be the best way." In addition, Joseph explained, "Different culture, respect for different things; I think they can learn a lot from different people in different countries." Similarly, Oliver stated, "Students can see different ways of doing things" and that it "definitely has an impact on those who are typically not able to follow one particular aspect but can follow the other one so that way the student gets a change to grasp the concept and application." Additionally, participants suggested that having someone from a different country teach provided students the opportunity to think more globally. Oliver highlighted, "In a remote community like this, having people from outside definitely helps students broaden their views and acceptance."

International growth

According to Joseph, William, Scarlett, Oliver, and Ryan, students also developed an international interest. When asked if hosting American teachers promoted interest of students to travel, Joseph replied, "I think it does. Lots of people ask you lots of questions about

what you do [in America], what is [in America]" and that, "students are interested in America and want to go over there and see what another country is like."

From the students that I have spoken to, they have been very curious. They have been asking questions particularly 'where are they from?' 'what is different there from here?' from outside of school, and I talk to some of them at cricket training and things like that, they are often referring to 'such and such they told me this today' and that does not happen all the time and in other classes so there has definitely been interest from the kids, which I think is fantastic. (Ryan)
Furthermore, Ryan added, "It is great, and I think for the kids, it is a great experience for them as well particularly in an isolated area like [New South Wales City], where most of them would probably not experience going to America."

Sense of Community

In addition to the impact on student growth, sense of community was another prominent theme that emerged from the participants' responses. McMillan and Chavis (1986) defined sense of community as "a feeling that members have a belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (p. 9).

Culture

When asked if there had been any changes in culture within the school since the beginning of the program, William responded, "Changes to the culture are better. Sometimes small country towns can be very literal and some kids never experience anything outside their country

town… to have someone come in and then establish that professional teacher/student relationship with them is great." Furthermore, Claire responded, "I think there has been. I had a view of what American culture was like…a lot of that was based on television and movies…which is fantasies in some cases. For me, having that knowledge and having somebody that comes in and talks about 'well this is my daily life experience' it is different."

Nevertheless, not all participants felt the same way. When asked the same question, John replied, "I really do not think there is a cultural shift" because "I do not think a couple teachers here or there are going to change the culture of the town." However, John stated, "I think they [community members] have enjoyed the cultural differences and enjoyed being exposed to that."

Perceptions and stereotypes

Although some participants disagreed there had been a culture shift, participants agreed perceptions and stereotypes have changed since the beginning of the program.

It has changed a lot actually. You do see those television programs and things like that. We learn a lot more about different areas of America and a lot more about America from having people out here, which is good. We see [American shows and movies] and that is what we go off of. Some people believe that is how Americans are and the way they act and behave and a lot of that is [not true]. (Miles)
Furthermore, Claire stated, "I now understand there are similarities in what is portrayed in American movies and the Internet, but there are differences too."

Values

This dissolving of stereotypes also

led participants to realize that values were similar to the American teachers. When asked if the participant felt that American teachers shared similar values, William responded, "I think they align quite strongly." Miles also replied, "Definitely, I think your [American] values are right along with what we are like. I think you guys are strongly Christian from where you are from, and this is more multicultural but still I think the beliefs are the same."

Beginning Impressions of American Teachers

Some participants admitted that their beginning impressions were not as positive. When asked how they felt when they first learned that there would be an American teacher, Claire stated, "Obviously, your first impression is always 'what is the impact going to be with these people being in the school?' because it is a different school system between the two countries." Claire mentioned, "We did not know who the teachers were. . . what they [teachers] were going to be like. . . how they were going to affect our kids, so it was important we went in with an open mind." However, not all participants shared the anxiety of having a new face within the community.

> I was really excited because we are constantly learning so all of us could get some opportunity to learn new things and techniques. I first heard that two of the American teachers were coming, I was really interested in seeing what I learned from books and journals and how that has changed or reshaped my practice. (Oliver)

Some participants were neither anxious nor excited but instead, curious. Ryan stated, "Initially, I asked myself 'Why pick, Australia?' I was curious to see how

the two different educational systems would work together." Regardless of initial reactions, all participants agreed they were excited to receive more American teachers.

> I think because our last experience was reasonably positive, you are more willing now to step back and go 'well this is going to be great.' You are looking forward to it because you are seeing it as a continuation of something good. If it had not been good before, then there would be major problem. (Claire)

Furthermore, Joseph specified, "We look forward to it every time someone new comes out."

Community involvement

One point to ensuring that impressions are positive is the attitude and involvement of the new members within the community.

> If you [American teachers] come in with an open mind to start with and are willing to try things, it makes it easier for community members to support and be involved with you [American teachers]. However, if you [American teachers] came with an attitude of 'I am not going to do anything' then community members automatically put up their shutters and think 'well we are not going to invite you anywhere.' (Claire)

Additionally, Lillian stated, "I think because you [American teachers] came prepared to try things and experience Australian culture, it has been so much easier to engage with you [American teachers] as well. I am prepared to go the extra mile when I see the teachers from America are prepared to take the extra time to blend in and mix with us…that

makes a big difference."

Community acceptance

The participants in the study claimed the American teachers were well accepted into the community. Scarlett stated, "[NSW City] is an accepting town. The community members also welcome different cultures."

> My recollection is that [the community] has been very accepting of the American teachers. Whether that has gone up, I do not know because I think that it has always been at a high level. We have had some trouble with international teachers in the past because of strong dialects, and some of the kids have really struggled to understand some of the accents that some staff members have and that has caused problems. Also, teachers who have come from a strong misogynistic environment do not understand how our kids do not have those same kinds of values. But, I believe you [American teachers] have settled in well, and there have not been any cultural issue complaints related to you [American teachers]. (William)

When asked if the community was more accepting of the American teachers since the beginning of the program, Claire replied, "Probably, I think the community is more accepting. I think this is a great program and it enhances the community as well as us enriching the American teachers' perspective on Australia."

Participants in this study agreed the overall impact of the American teachers was overwhelmingly positive. William stated, "It has always been positive to the community. There have been past teachers who have kept in contact with the mentor teachers, older

students, and community members." Furthermore, participants revealed the community impact was largely influenced by the American teachers who chose to partake in the experience. Caleb stated, "The previous American teachers fit nicely within in the community and enjoyed the social as well as the academic nature of the role." Moreover, Claire indicated, "The people chosen have been the right people who have desired an international experience."

Conclusions and Future Recommendations

Globalization has been and will continue to be an important aspect to society (Berry, 2008). Furthermore, developing communities with 'strong' community memberships provides a sense of belonging and personal investment for individuals. One aspect of a strong community is being an invested member of an educational system. Participants in this study identified student growth in cultural knowledge as an impactful benefit of having American teachers as members of the isolated community. Therefore, one may conclude that to develop stronger educational systems within the community, different cultural perspectives need to be infused within that community [educational] system.

Several subthemes emerged from the sense of community including culture, perceptions and stereotypes, values, beginning impressions of American teachers versus current impressions, involvement within the community, and community acceptance. Culture, perceptions, stereotypes, and values are important aspects to a community. Although not all participants felt as if there was a shift in culture, the presence of the American teachers did lead to cultural changes within the Australian

community. Each community has distinct cultural characteristics and values, which can perceive immediate impressions of character. This study revealed that the presence of American teachers led to changes in the community members' perceptions and stereotypes of Americans. While individuals do form stereotypes, their impressions of the culture emerge from the context of the group (Bar-Tal, 1997). Therefore, this is an important factor because impressions of individuals can lead to perceptions of the group as a whole (Tajfel, 1982). One may conclude that original impressions of a culture are formed by individuals; however, once individuals from the culture are included in the group, impressions (positive or negative) of the culture will change.

Community acceptance of American teachers was also present in this study. Community acceptance creates a sense of attachment and provides a sense of belonging for individuals within the community (McMillan, 1996). Community members in this study included the American teachers in local events, social functions, and educational opportunities. One may conclude that the American teachers were accepted and had a sense of attachment in the NSW community.

While it is clear that the American teachers had a measureable impact, further study is needed to determine if the impact could be increased by a longer teaching period as well as if a similar impact could be expected if the teachers were in a less welcoming community. Last, a follow up study is needed to determine if the impact on the community is temporal and/or if the impact remains over time.

Some questions arose during this study. Future research questions should answer the following:

1. What impact did American teachers have on the Australian students?
2. What would the impact have been on the Australian community if the American teachers were present for a full year?
3. What impact would American teachers have on a community that was less accepting of international visitors?

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Factors Influencing Self-Efficacy and Adoption of ICT Dissemination Tools by New Extension Officers

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Abstract

Information Communication Technologies (ICTs) offer Extension systems opportunities to expand participation and provide information faster to stakeholders. The study included fifty-seven new extension officers drawn from the public, private and state assisted extension organizations in Trinidad. Participants were surveyed to assess their level of confidence in the use of ICTs and the factors that impacted their use of these dissemination tools. The survey, which was conducted during March to May 2015 on the mandatory office days of the agents, consisted of five sections which captured socio demographic variables, performance expectancy, effort expectancy, social influence and self-efficacy in the use of ICTs. Percentages and means were used to describe the data set and multiple regression analysis was used to explore relationships with ICT use. Results showed that: use of ICTs was moderate; the professional level of officers, their education level, perceptions of ICTs as useful and easy to use and social influence significantly impacted their use of ICTs in their job functions. There are implications for the provision of quality and timely delivery of information to clients. It is recommended that the entry level requirements for new officers should be raised by employers, in-service training in ICTs and other modern communication methods and tools be provided to those already in the system, and the curricula at the main tertiary training institution be reviewed to include ICTs for extension work.

Introduction

Information Communication Technologies (ICTs) include hardware and software associated with desktop, laptop, and tablet computers, cellular and land-line telephones, radio towers, televisions, DVD players and more (McCole, Culbertson, Suvedi, & McNamara, 2014). ICTs enable Extension officers to respond to audiences faster, disseminate information to larger audiences, and save travel time and expenditures (Ganpat, Webster, & Narine, 2014). Strong, Ganpat, Harder, Irby, and Lindner (2014) suggested that future research should examine new Extension officers' capacity for using ICTs. Developing a better comprehension of barriers prohibiting the use of ICTs by Extension officers who are new to the job would inform Extension professional development specialists of strategies to adequately prepare officers to use such dissemination tools routinely in their job.

Meeting the needs of farmers is the primary driving force contributing to the development and dissemination of ICTs to farmers (Andreopoulou, 2012). Aker (2011) suggested the expansion of mobile technology provides opportunities to develop agricultural ICTs that will meet the needs of more farmers. Farmers are open to acquiring agricultural information from ICTs because it saves them time by providing solutions quicker versus waiting on an extension officer to arrive at their farm (Dhaka & Chayal, 2010). ICTs offer opportunities to serve more female farmers for women who do not participate in traditional face-to-face trainings offered by male extension officers (Obayelu & Ogunlade, 2006).

The lack of training and preparing extension officers to use ICTs is one of the main challenges for extension organizations seeking to disseminate information through ICTs (Hassan, Hassan, Shaffril, & D' Silva,

2009). Only prepared and competent extension officers will be able to develop and disseminate information effectively using ICTs that meet the needs of farmers (Ballantyne, Maru, & Porcari, 2009).

Trinidad has a population of 1.3 million and although it generates most of its income from oil and gas, ICTs are being promoted as an important development tool for the 22,000 farmers and the estimated 100,000 persons who depend on farming for their source of employment or household income. Agricultural Extension in Trinidad is thus searching for ways to effectively use ICTs to improve the delivery of services to the farming community. The state, which is the main provider of extension services, has not kept up with advances with the use of modern technologies while the main state-assisted extension service provider, the National Agricultural Marketing and Development Corporation (NAMDEVCO) is the most effective user and promoter of ICTs, not only for Trinidad but the entire Caribbean region (Joseph, 2010).

Theoretical Framework

The Unified Theory on the Acceptance and Use of Technology (UTAUT) was developed by Venkatesh, Morris, Davis, and Davis (2003) as a method of assessing the likelihood of success for new technology introductions and enhances the understanding of what drives acceptance of technologies so that managers may proactively create interventions to encourage the adoption of the technology. Based on a thorough review of literature and models, the researchers found that seven constructs had significant direct effects on the intention or usage of a technology; four of these were determined to play a significant role in determining user acceptance and usage of behavior (Venkatesh et al., 2003). These four constructs are performance expectancy,

effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003).

According to Venkatesh et al. (2003), performance expectancy is the strongest predictor of intention and is defined as "the degree to which an individual believes that using the system will help him or her to attain gains in job performance" (p. 447). Effort expectancy is how easy it is to use the technology, and includes perceived ease of use, complexity, and ease of use (Venkatesh et al., 2003). Social influence encompasses pressure the individual perceives other important individuals exert on the use or disuse of the technology (Venkatesh et al., 2003). Lastly, facilitating conditions are defined by Venkatesh et al. (2003) as "the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system" (p. 453).

Strong, Irby, and Dooley (2013) used self-efficacy theory, self-directed learning theory, and the unified theory for acceptance and use of technology to frame an assessment of undergraduate students' behavioral intention regarding the acceptance of mobile technology in agricultural education courses. Results of the study suggested that these three theories combined "accounted for variance in students' behavioral intention towards mobile technology acceptance" (Strong et al., 2013, p. 156). Regarding the UTAUT, it was found that student's level of self-efficacy and self-directedness influenced behavioral intention in accepting mobile technology (Strong et al., 2013). Strong et al. (2013) stated that according to Venkatesh et al. (2003), 70% of an individual's acceptance of mobile technology could be explained by the UTAUT.

Self-efficacy is an individual's belief in their personal capabilities and access to sufficient resources to accomplish a given task (Bandura, 1991). Individuals with low self-efficacy tend to see difficult tasks as threats and thus avoid these tasks; individuals with high self-efficacy view difficult tasks as something to be mastered and gain a sense of accomplishment upon completion of the task (Bandura, 1991). The three principle functions that determine the self-regulation mechanism are "self-monitoring of one's behavior, its determinants, and its effects; judgment of one's behavior in relation to personal standards and environmental circumstances; and affective self-reaction" (p. 248).

Self-monitoring entails an honest, consistent, time-conscious analysis by an individual of their own performance, the conditions that occurred at the time of performance, and the effects produced by the performance (Bandura, 1991). The judgmental subfunction consists of observing patterns of behavior and judging them based on personal standards (Bandura, 1991). Self-motivation and self-diagnosis are aspects of this sub-function that influence self-reaction (Bandura, 1991). Bandura (1991) describes integral parts of this sub-function as including establishing personal standards, evaluating behaviors in relation to the attainments of others, placing values on activities, and perceived performance determinants. The last sub-function, self-reactive influences, hold that individuals are more likely to perform actions that produce positive self-reactions and avoid behaviors that result in self-deprecation (Bandura, 1991). According to Bandura (1991), self-motivating incentives "may be either tangible outcomes or self-evaluative reactions" (p. 256).

An individual's beliefs regarding their control over their own functioning as well as other events in their lives is the most influential mechanism affecting self-regulatory systems (Bandura, 1991). Self-

efficacy beliefs play a role in determine how the sub-functions of a self-regulatory system operate, as well as affect the goal-setting sub-function of self-regulation (Bandura, 1991). Self-efficacy also influences how values is placed on activities; if an individual has high self-efficacy regarding an activity, they are more likely to continue that activity and vice versa (Bandura, 1991).

Purpose and Objectives

This study was a part of a larger study seeking to understand barriers that prohibit new extension officers from using ICTs in their job. More specifically, this study sought to:

1. Describe participants' performance expectancy, effort expectancy, social influence, and self-efficacy for using ICTs;
2. Examine the relationship between participants' performance expectancy, effort expectancy, social influence and self-efficacy; and
3. Examine the influence of participants' characteristics, performance expectancy, effort expectancy, and social influence on self-efficacy.

Methodology

The target population was new extension officers dispersed into eight geographic counties in the North and South Agricultural Regions of Trinidad, the centralized Extension Training and Information Services Division, the Tobago Division of Agriculture, state assisted organizations and private extension service providers across the country. The survey was conducted during March to May 2015, and self-reporting questionnaires were distributed to the entire population of 62 new extension officers. Participation was voluntary and respondents were informed of

the purpose of the study, by whom the data will be accessed and the confidentiality of responses was ensured by omitting names. The survey was conducted on a weekly basis on the mandatory office days of the officers. There was a 92 % response rate as some 57 officers agreed to participate in the survey and returned the instrument which took approximately 20 minutes to complete.

The survey instrument comprised five sections which captured the following: Section 1 consisted of 17 demographic and job characteristics questions. Section 2 assessed performance expectancy and consisted of 14 Likert- type questions to measure the intensity of the respondents' agreement to the item statements with possible score for each item ranging from 1 to 4; *Strongly agree* (4), *Agree* (3), *Disagree* (2) and *Strongly disagree* (1).

Section 3 assessed effort expectancy and consisted of 14 questions to measure the intensity of the respondents' perceived level of usefulness of selected ICT tools and with possible score for each item ranging from 1 to 4; *Very useful* (4,) *Somewhat useful* (3), *Not very useful* (2) and *Totally useless* (1).

Section 4 assessed social influence and sought to measure the intensity of the respondents' likelihood to use ICTs as a result of interaction with other individuals such as peers, admired superiors and friends who use ICTs. Possible score for each of the 16 items ranged from 1 to 4; *Very likely to use* (4), *Somewhat likely to use* (3), *Likely to use* (2), and *Not at all likely to use* (1).

Section 5 consisted of 6 questions which assessed respondents' self-efficacy; these related to issues that create difficulties for extension agents as an educator using ICTs. Respondents were asked to indicate their level confidence in using ICTs by choosing the response best suited to them from the response set and coded; Score for each item was; *No* (1), *Very little* (3), *Some confidence* (5), *Quite a bit* (7), and *A great*

deal (10). This score range has been recommended by Bandura (2006) as being simpler than the previous 0-100 score range used by others.

A review of the questionnaire for content validity was done by a panel of six experts in the field of extension which comprised: two past Extension Directors, two University Lecturers in extension and two subject matter specialists with many years of experience in the Trinidad and Tobago Extension system. The instrument was reviewed and edited according to the recommendations and feedback given. A pre-test was conducted among 5 new extension officers to assess the questionnaire before conducting the survey. Some minor modifications were made to the statements and items being assessed.

Percentages were used to describe the socio-demographic characteristics of the sample and means and standard deviations were used to describe other study variables. A correlation matrix was developed to explore the bivariate relationships among key study variables (performance expectancy, effort expectancy, social influence and self-efficacy). Multiple linear regression (ordinary least squares-OLS) was used to assess the impact of independent n self-efficacy scores. Nominal and ordinal variables were entered as dummy variables into the regression model. These are specified in the table with the regression results. Statistical significance was established at a p-value of <0.05. All data analysis was conducted using the Statistical Package for Social Sciences (SPSS) version 21 (IBM Corporation, New York, USA).

Results

The extension officers surveyed were employed by the Public extension service (95%) and were Agricultural Assistants I (82%: lowest professional level), and Agricultural Extension Aides (AEA: paraprofessional level) (14%) and 4% were Agricultural Officers 1 (AOI: highest professional level) respectively. There was almost even gender mix. With respect to education, 30% possessed associate degrees, 25% had an undergraduate degree, 22% completed postgraduate degrees and 14% had diplomas. Although these were new officers to the extension system, some 67% had 1-3 years of working experience while 33% had less than 1 year experience. The majority of the respondents were between the ages of 18-30 years (77%). Most officers had extension and communication specialization (51%) and crop production (37%) and a smaller amounts had expertise in livestock production (12%). The sample majority (88%) earned between 900-1200 USD monthly (see Table 1).

Table 1
Personal Characteristics of Participants

Variable	Level	%
Extension Service Provider Group	Public	95
	State assisted and Private	5
Professional Level	Ag. Officer 1	4
	Ag. Extension Aide	14
	Ag. Assistant1	82
Education	Associate degree	30
	Diploma	14
	Undergraduate degree	25
	Postgraduate degree	22
	Other	9
Work Experience	Under 1 year	33
	1-3 years	67
Age	18 to 30	77
	31 to 45	23
Gender	Male	49
	Female	51
Area of expertise	Mainly Crop	37
	Mainly Livestock	12
	Extension and Communications	51
Salary range (TT$)	Less than 5,000	5
	5-7,000	95

The first objective was to describe participants' performance expectancy, effort expectancy, social influence, and self-efficacy for using ICTs. Participants' performance expectancy for using ICT's is provided (see Table 2). Individual item means showed that these new extension officers had fairly good perception of the benefits of new ICS and methods in their job functions. Results indicated that officers believed that the most important benefits of using new extension methods were; i) new methods strengthen extension support; (ii) the use of new methods in extension work generates fundamental improvements in program achievement and; (iii) Farmers can contribute ideas towards their own development. Lowest responses were in the areas of; (i) New extension methods ensure farmers' needs are met; (ii) Extension officers are able to make input in program planning and; (iii) National goals of food security and sustainability can be achieved if I use new methods in the delivery of extension service.

Table 2
Participants' Performance Expectancy with ICT's

Beliefs/perceptions	M	SD
New methods strengthen extension support.	3.35	0.62
The use of new methods in extension work generates fundamental improvements in program achievements.	3.32	0.47
Farmers can contribute ideas towards their own development.	3.32	0.56
New methods facilitate networking and create alliances.	3.30	0.53
New methods are tools of empowerment for extension agents in performing their duties.	3.30	0.49
New methods improve access to information.	3.25	0.48
Empowerment of farmers and rural communities are key benefits of new extension methods.	3.21	0.50
These new methods improve communication.	3.21	0.46
Using new methods help farmers to build capacity.	3.21	0.47
Farmers' lives can be improved using new methods.	3.18	0.45
More accurate responses are provided to clients when new methods are utilized.	3.16	0.61
National goals of food security and sustainability can be achieved if I use new methods in the delivery of extension service.	3.16	0.53
Extension officers are able to make input in programs planning.	2.98	0.47
New extension methods ensure farmers' needs are met.	2.89	0.54

Note. Overall. M = 3.20, SD = .32, Scale: 4 = Strongly Agree; 3 = Agree; 2 = Disagree; 1 = Strongly Disagree

The second aspect of the first objective was to describe participants' effort expectancy for using ICTs (see Table 3). Items were ranked by their level of usefulness (4 = *very useful* to 1 = *totally useless*). Individual item means showed that these new extension officers perceived that these new methods and ICTs as quite useful to them and easy to use in carrying out their job functions. All respondents indicated that the most useful tools were; (i) Using emails to improve communication between researchers and extension; (ii) Mobile applications to access information to assist farmers; and (iii) Cellphone calls to connect to clientele. On average, respondents perceived all methods and tools assessed as being either *very useful* and easy to use or *somewhat useful* and somewhat easy to use ($f = 96\%$).

Table 3

Participants' Effort Expectancy with ICTs

I.C.Ts, Computers and methods	*M*	*SD*
Using e-mail to improve communication between researchers and extension.	3.67	0.55
Mobile apps to access information to assist farmers.	3.67	0.88
Cellphone calls to connect to clientele.	3.65	0.69
Using websites to access information to assist farmers.	3.63	0.65
Using social media to communicate extension information.	3.63	0.67
Using computer software to prepare and present slide presentations for extension programs.	3.60	0.63
Using computer software to organize and illustrate reports of extension programs.	3.60	0.70
Cellphone texts to communicate with all stakeholders.	3.54	0.76
Global Positioning System (GPS).	3.53	0.61
Web based apps to access information to assist farmers.	3.37	0.79
Farmer Field Schools.	3.19	1.03
Joint programs with multiple stake holders	3.18	0.98
Using computer programs to record and analyze data, prepare charts and graphs.	3.16	1.00
Participatory methods.	2.98	1.03

Note. M = 3.35, SD = 0.54. Scale: 4 = Very Useful; 3 = Somewhat Useful; 2 = Not very useful; 1 = Totally Useless

The third element of the first objective was to describe participants' social influence on ICT usage (see Table 4). Most respondents indicated that social influence had a significant impact on their use of cell phone calls to connect to clientele, use of computers, using websites to access information to assist farmers, using computer software to prepare and present slide presentations for extension programs and the internet. However, social influence played a little role in their use of Global Positioning System, to conduct Famer Field Schools and to have Joint programs with multiple stakeholders such as Plant Clinics and invasive species management. Overall, social influence had a fairly strong impact on respondents' decisions to use ICTs and new extension methods (75%).

Table 4

Likelihood to Use New Methods Due to Social Influence

Items	*M*	*SD*
Cell phone calls to connect to clientele.	3.56	0.68
Computers	3.56	0.73
Using websites to access information to assist farmers.	3.49	0.71
Using computer software to prepare and present slide presentations for extension programs.	3.47	0.68
Internet	3.47	0.83
Using computer programs to record data, prepare charts, graphs and figures.	3.42	0.73
Using computer software to organize and illustrate reports of extension programs.	3.35	0.77
Using e-mail to improve communication between researchers and extension.	3.28	0.82
Multimedia software.	3.12	0.80
Mobile apps to access information to assist farmers.	3.07	1.69
Cell phone texts to communicate with all stakeholders.	3.02	0.86
Using social media to communicate extension information.	3.02	0.95
Web based apps to access information to assist farmers.	2.89	0.98
Joint programs with multiple stakeholders such as Plant Clinics and invasive species management.	2.88	0.93
Farmer Field Schools.	2.81	0.95
Global positioning system (GPS).	2.75	2.96

Note. Overall. M = 3.52, SD = 0.68. Scale: 4 =Very likely to use; 3 = Somewhat likely to use; 2 = Likely to use; 1 = Not likely to use

The fourth component of the first objective was to describe participants' self-efficacy to use ICTs (see Table 5). Item responses ranged from "*A great deal*" (10) to "*nothing*" (1). Respondents stated that their highest self-efficacy was ICTs that "allow them to respond to questions through ICTs" effectively and which allows them to" implement alternative teaching styles using ICTs to teach". The items that inspired the least amount of confidence for extension officers were; (i) "how comfortable they were using ICTs for evaluation strategies?" and "extent to which they could provide an alternative explanation, through ICTs, when clients are confused about what they are teaching?"

Table 5
Descriptive Statistics of Participants' Self Efficacy with ICTs

Items	M	SD
How well can you respond to clients' questions through ICTs?	6.32	2.11
How well can you implement alternative teaching styles using ICTs to teach?	6.23	1.79
How much can you gauge client comprehension of what you taught through ICTs?	6.04	1.80
To what extent can you craft good questions from your clients through ICTs?	5.74	2.03
To what extent can you provide an alternative explanation, through ICTs, when clients are confused about what you are teaching?	5.74	1.58
How comfortable are you using ICTs for evaluation?	5.70	1.89

Note. Overall. M = 5.96, SD = 1.44. Scale = 1-Nothing; 3-Very Little; 5-Some Influence; 7-Quite a Bit; 10-A Great Deal

The second objective was to examine the relationship between participants' performance expectancy, effort expectancy, social influence and self-efficacy. A correlation matrix based on Spearman's Rho was generated to examine the relationship of the inter-correlations of scores for participant's performance expectancy, effort expectancy, social influence on self-efficacy (see Table 6). Positive statistically significant relationships ($p<0.05$) were observed between effort expectancy and social influence and between effort expectancy and self-efficacy.

Table 6
The Relationship Between Performance Expectancy, Effort Expectancy, and Social Influence and Self-efficacy with Regard to ICT's

	Performance Expectancy	Effort Expectancy	Social Influence	Self-Efficacy
Performance Expectancy	1.00	0.07	0.09	-0.17
Effort Expectancy		1.00	0.34**	0.37**
Social Influence			1.00	0.10
Self-Efficacy				1.00

**$p<0.01$

The third objective sought to examine the influence of participants' characteristics, performance expectancy, effort expectancy, and social influence on self-efficacy (see Table 7). Multiple linear regression of self-efficacy scores on independent predictors was the method employed to analyze the data. The researchers constructed the OLS Model:

Self-Efficacy = f (Social Influence, Effort Expectancy, Performance Expectancy, Professional level, Years of experience, Highest level of education, Expertise, Gender and Age). The multiple regression model fitted to analyze the factors predisposing extension officers' self-efficacy of using ICTs showed a good fit with an adj. R^2 of 0.62.

Table 7
Multiple Regression Analysis of Independent Variables on Self-efficacy with ICTs'

Explanatory variable	β	SE	t	p
(Constant)	5.46	13.76	.40	.69
Professional Level [a]	18.53***	2.71	6.85	.00***
Education	3.83***	.86	4.45	.00***
Experience [b]	3.09	2.36	1.31	.20
Age	-2.60	2.35	-1.10	.28
Gender [c]	-.04	1.93	-.02	.98
Crop expertise [d]	.54	2.34	.23	.82
Livestock expertise [d]	-2.72	2.94	-.93	.36
Social influence	.19*	.09	2.13	.04*
Effort expectancy	.26*	.12	2.16	.04*
Performance expectancy	-.42	.23	-1.88	.07

*Note. $F_{(10, 46)} = 10.18$***; $Adj.R^2 = 0.62$; *** $p<0.01$; * $p<0.05$*
a: Reference Category – Para professionals;
b: Reference Category – Less than 1 year;
c: Reference Category – Male; and
d: Reference Category – Extension/ Communication

Conclusions and Implications

While these new extension officers had fairly good perceptions of ICTs as appropriate tools that can aid them in doing their extension work, levels of self-efficacy is uncomfortably low and this has to be addressed. Results also suggested that persons at higher professional levels and who have more formal education are the ones that should be attracted to the Extension service as these officers are more likely to exploit the efficacy of ICT tools.

The data suggested that the level of usefulness that officers ascribe to ICTs is related to: the extent of interaction they have with their peers and colleagues who use ICTs (Venkatesh et al., 2003) and also directly related to the level of confidence they believe they have in their ability to use ICTs (Bandura, 1991).

These results have implications for the future professional development of the Extension services in Trinidad and Tobago. If extension officers are not comfortable and competent with the use of ICTs, then the service that they provide to clients will be limited especially in this modern era when ICTs are being routinely used for agricultural development (Ballantyne, Maru, & Porcari, 2009).

Results showed that new extension officer's professional level, education, social influence and effort expectation were significant predictors of self-efficacy. These results implied that the self-efficacy of officers' increased as their professional status and educational qualification increased (Bandura, 1991). Extension officer's confidence and proficiency in using ICTs as tools for extension increased with their professionalism and education. Similarly, social influence, the influence of peers, admired superiors and friends who use ICTs, exerted a positive effect (Venkatesh et al., 2003) on their self-efficacy. Officers' perception of ICTs as useful and an easy to use tool for extension also significantly impacted their self-efficacy.

Recommendations

A stated requirement for the job of extension officer in these modern times should be fairly good ICT capabilities. Guidelines for recruitment should be modified to reflect this reality and the government, as the biggest employer (95%) of extension officers in Trinidad and Tobago, should review the entry level requirements for persons wishing to become extension officers.

Similarly, greater exposure of ICT tools to these new officers would impact positively on their ICT use. To better meet the needs of farmers in Trinidad and Tobago, extension officers need on-going professional development with ICTs to meet farmer's changing and diverse needs (Aker, 2011; Andreopoulou, 2012). As such, in-service training should be made available to those already in the system to raise their competency levels. These could be either short training courses or attachments to organizations that routinely use ICTs in their work. The NAMDEVCO has been identified as one such organisation.

Further, the curriculum at the main training institution for Extension officers should also be reviewed and ICT knowledge and skills development for extension work should be strengthened. Specialized training in ICTs to expose officers to new methods and tools will be required for new extension officers to become more comfortable using such tools in their work.

Farmers are willing to use ICTs because the tools save them time in getting information (Dhaka & Chayal, 2010). ICTs can help Extension systems broaden their reach and expand clientele and stakeholder support (Strong et al., 2014).

The use of ICTs should be studied to discern the effect of ICT use by Extension systems in mitigating food insecurity. The results would offer insight on potential ICT use strategies and barriers that exist which could be addressed to help farmers acquire information faster in order to produce food. A list of best management ICT practices could be developed regardless of context and food commodity to help farmers proactively plan for production and marketing.

ICTs offer opportunities for farmers to communicate information to each other across broad distances that would save time and travel. Extension systems have the opportunity to be leaders in ICT diffusion and adoption. These opportunities could provide Extension systems, governmental or non-governmental, a rebirth in dissemination strategies to meet farmer's needs.

"New" extension officers will eventually be the seasoned personnel and leaders that will make decisions and influence those new to the profession. Training individuals that are "new" now will only help Extension systems be more proficient with ICTs and thus, meet the needs of farmers and improve local food supplies.

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