

7-1-2011

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Recommended Citation

Shoulders, C. W., Barrick, R. K., & Myers, B. E. (2011). An Assessment of the Impact of Internship Programs in the Agricultural Technical Schools of Egypt as Perceived by Participants Groups. *Journal of International Agricultural and Extension Education*, 18(2), 18-29. DOI: <https://doi.org/10.5191/jiaee.2011.18202>

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Keywords

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DOI: 10.5191/jiaee.2011.18202

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Agricultural Technical Schools of Egypt as Perceived by Participant Groups**

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Abstract

Experiential learning including student internships has been central to instructional programs in agriculture for decades. If the Agricultural Technical Schools of Egypt are to prepare students for successful careers and to enhance the agricultural economy, teachers must be well-prepared to use this teaching technique. Further, all stakeholders, including students, teachers, parents, headmasters and agribusiness owners, must recognize the importance and impact that implementing a student internship program could have. In this study, all groups identified important contributions to student learning and growth as a result of student participation in the internship program. While several suggestions were posited to improve the program, all agreed that the schools, the communities, the agribusinesses and the students received valuable benefits. The program of student internships in Egypt could be adopted in other countries where the agricultural economy could be improved through a better prepared agricultural workforce.

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Introduction

Experiential learning, including activities such as supervised agricultural internships, focuses initially on the learner (Roberts, 2006) and follows the widely accepted problem-solving approach to teaching and learning found in agricultural education (Phipps & Osborne, 1988). Dyer and Williams (1997), in a synthesis of research on supervised agricultural experience in the United States, concluded that the teacher is central to the success of experience programs. Dyer and Williams also noted that employers can effectively help with programs such as internships. Preparing teachers to supervise programs and to work with potential employers to develop and enhance supervised experience programs in the agricultural technical schools of Egypt seems equally appropriate. Conducting further research in the area of preparing students for career success is a national priority in agricultural education in the U.S. and can be broadened to include international settings (Osborne, n.d.).

A productive agricultural economy relies upon a well prepared agricultural workforce (Samy, 2003). To address that concern, the Value-Chain Training Project in Egypt was developed as part of an on-going initiative funded by the US Agency for International Development (USAID) through the Midwest Universities Consortium for International Activities, Inc. (MUCIA). The project is designed to improve the quality and effectiveness of educational programs in the Agricultural Technical Schools (ATS) of Upper Egypt, serving more than 100,000 students, to increase student employability and improve the agricultural sector of the Egyptian economy (Samy, 2003). The project includes three components: improving the learning environment, developing supervised internship/ownership programs, and enhancing career skill development.

This paper focuses on the supervised internship sector of the project.

The Agricultural Technical School system in Egypt includes 130 secondary schools located throughout the country. The schools, with average enrollments of more than 2,750 students and about 154 instructors each, were originally designed to prepare skilled workers for the agricultural economy of the country (Swanson, Cano, Samy, Hynes, & Swan, 2007). A dearth of suitable teaching materials, insufficient training of the teachers in student-centered instruction, and a lack of linkages with the agricultural industry led to the creation and funding of the Value-Chain Training Project, designed to improve the connection between ATS programs and the agricultural businesses and industries that the schools serve. The potential end result is an increase in the employability of ATS graduates through providing students with suitable internship experiences (MUCIA, n.d.; Barrick, Samy, Gunderson & Thoron, 2009). The work of this project focused on developing innovative expertise by introducing new ways of teaching and new content, namely student internships. The foundation for the work conducted for this part of the project was grounded in the theory of Teacher Adaptive Expertise (Hammerness et al., 2005). Teacher expertise is developed along two dimensions, namely efficiency and innovation. Expertise in efficiency leads to the ability to accomplish a task with little attention, while expertise in innovation leads to trying new things and changing current practices. Adaptive expertise includes efficiency and innovation. Periodic assessment of the new practice can identify additional training needs and assess the impact of the innovation.

Swanson et al. (2007) indicated that engaging ATS students in various practical training activities has not been a priority in

Egypt in the past, which led to the development and funding of the USAID project. In addition, ATS instructors often lacked the practical skills and experience that are needed by their students. If teachers can be better prepared to involve business and industry in providing decision making and hands-on experiences for students, both students and agricultural business will gain. Additionally, ATS instructors lack preparation in teaching a variety of agricultural skills, including agribusiness management. However, instructors were positive about their participation in training workshops (Thoron, Barrick, Roberts, & Samy, 2008). Agricultural science and technology is a primary driver of agricultural growth; it needs lots of well-educated people (von Braun, 2008).

The MUCIA project for ATS instructors (MUCIA, n.d.) provided for workshops offered to ATS instructors in 50 schools in Upper Egypt. Workshop leaders from the MUCIA team prepared the workshop materials and activities and then delivered the workshop to university faculty. Those faculty, in turn, taught the ATS instructors throughout the region. In order to provide evaluation feedback to the funding agency and to identify changes to be made in subsequent workshops, workshops should be evaluated (Ayers, 1989). Workshop evaluations provide guidance in developing additional short-term learning experiences for the participants, encourage the utilization of active learning, and meet the needs of the learners (Myers & Roberts, 2004).

If the Agricultural Technical Schools are designed to prepare society-ready graduates, then students must be prepared with skills that include real-world experiences. Teachers must be prepared to develop, coordinate and supervise those experiences in conjunction with agribusiness. In consideration of Finley and Price (1994) as well as suggestions by Knowles (1984), efforts by MUCIA instructors to facilitate workshops will lead

to better content understanding by Egyptian faculty. Workshops can be developed that will assist in providing the needed skills for teachers by preparing Egyptian faculty to offer educational experiences for ATS instructors beyond the scope of the funded project.

As a part of the second component of the Value-Chain Training Project (developing supervised internship/ownership programs), workshops were designed and delivered by faculty from the United States in cooperation with the MUCIA staff which made up the MUCIA team. Those workshops included content on experiential learning, supervised experiences and internships, from planning programs to assessing student learning. Concurrently, active learning strategies were demonstrated and utilized to assist ATS instructors in teaching students about internships as well as how to involve parents and the community in the internship programs. Headmasters and Ministry of Education personnel were also involved in the workshops.

The initial workshops followed a train-the-trainer process. The MUCIA team prepared materials for the workshops which were translated into Arabic. A set of three workshops was taught in July 2007. The first was taught by U.S. faculty to Egyptian faculty who would later serve as instructors of the workshop. The second was taught by U.S. faculty with the Egyptian faculty serving as translators; participants were ATS instructors. The third workshop was taught by Egyptian faculty, in Arabic, for a second group of ATS instructors. The U.S. faculty assisted with group discussions. The Egyptian faculty continued to offer additional workshops to ATS instructors throughout Upper Egypt after completion of the original training workshops.

The original workshops were evaluated at the conclusion of the session (Thoron, Barrick, Roberts & Samy, 2008). Subsequently, additional information was

collected from the ATS instructors who have been involved in the internship program, and additional workshops were offered based on the perceived needs of the ATS instructors. One year after the initial supervised experience/internship workshops, the knowledge of and ability to apply the competencies taught in the workshops were assessed. ATS instructors generally had acquired the necessary competence to guide their students, while also acknowledging the need for additional information for some areas of the program (Barrick, Samy, Roberts, Thoron & Easterly III, in press).

The success of introducing the program of student internships into the ATS programs eventually rests with the involvement and success of the key players: students, parents, teachers, headmasters and employers. One measure of success is the impact of the internship program as perceived by the key players. To what extent has the implementation of the internship programs affected the schools, the students, their families and the agribusiness community?

Purpose

The purpose of this study was to gain a deeper understanding of the ATS internship program experiences as perceived by the five stakeholder groups: students, their parents, teachers, headmasters, and the employers of the students. The following questions guided this study.

1. What is the impact of the internship program as perceived by each of the five stakeholder groups?
2. How do stakeholders think the internship program could be more beneficial?
3. What is the perceived value of internships as identified by each group?

Methods

The researchers engaged in a qualitative study involving thematic analysis

through a social constructionist theoretical perspective in order to determine how individuals involved in Egyptian ATS internships made sense out of the internship experience. The social constructionist lens allows for the formation of a shared reality through social interaction, and so the researchers were able to interpret the experiences shared by stakeholders through focus group discussion (Flick, 2006).

Participants

The participants were purposively selected based upon the criterion of involvement in Egyptian ATS internships. In partnership with USAID, Egyptian ATSs with involvement in internships were selected, and convenience samples of students, parents, headmasters, teachers, and employers from the selected schools were requested. From four agricultural technical schools in Edfu, Benban, Bebe, and Wosta, 38 students, 3 employers, 5 parents, 27 teachers, and 2 headmasters agreed to participate in the study. Students had completed internships at various locations (farms and agribusinesses) and for various lengths (three months full-time to six months part-time). Three-month internships were full-time placements away from the home community; part-time internships were typically during part of or after the school day at a local farm or agribusiness.

Procedures

Data collection consisted of semi-structured face-to-face focus groups, through moderators responsible for translation, for unspecified amounts of time until response saturation was reached. Each of the five participant groups was interviewed separately at two school sites. The group interaction in focus groups differentiates it from other methods of qualitative data collection (Morgan & Krueger, 1993) and allows individuals to engage in discussion “designed to obtain perceptions on a defined area of interest in a permissive and non-

threatening environment” (Krueger, 1988, p. 18). The researchers speak only English and the study participants primarily speak Arabic, thus requiring the use of translators who acted as focus group moderators. The researchers, prompting discussion through questions, facilitated the focus groups, and thus will be termed “Facilitator” for ease of understanding. All focus groups involved one facilitator, two moderators for translation (one asking questions to the group from the facilitator and one translating answers for those taking field notes), three individuals collecting field notes (referred to as observers/transcribers), and a group of participants. Groups of students, parents, teachers, employers, and headmasters were interviewed separately, and questions were designed specifically for each group based on input from experts in agricultural student internships. Due to the unique circumstances and complexity necessitated by the language barrier, Figure 1 provides a model of the focus group process utilized in this study.

All group interview transcriptions were coded for emerging themes based on the research questions. Lincoln and Guba (1985) propose that credibility, transferability, dependability, and confirmability can be utilized to evaluate the soundness of qualitative research. These criteria were established through the use of multiple moderators, observer/transcriber triangulation, source triangulation from focus groups conducted at two separate sites, rich descriptions of the context and study assumptions, and inquiry audit (Lincoln & Guba, 1985).

Findings

Data collected by each of the three observer/transcribers was combined and divided into segments. Segments were then analyzed and categorized. An analysis of the data collected in this study resulted in the emergence of two themes and corresponding sub-themes:

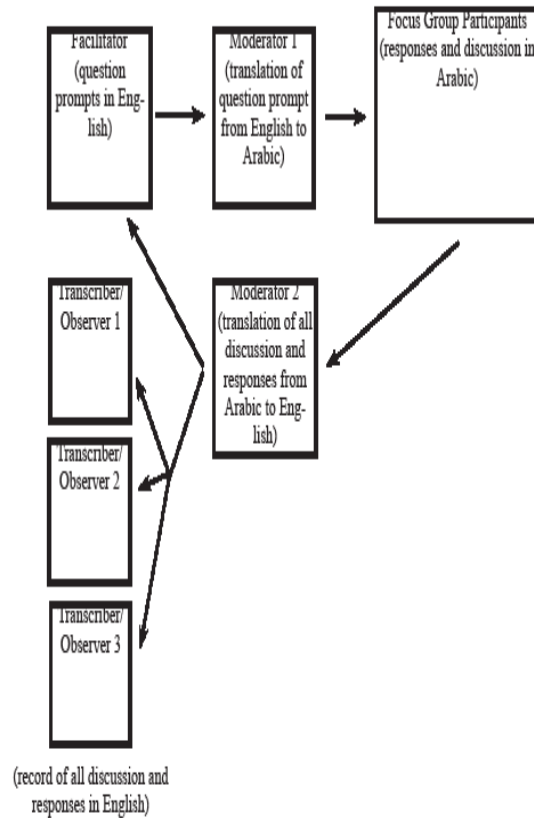


Figure 1. Focus group process.

1. Internships as a vehicle for long-term community improvement
 - a. Increased well-prepared workforce
 - b. Increased value in education
 - c. Responsible financing
 - d. Sustainability
2. Increase in school-home-community collaboration
 - a. Built relationships between teachers and employers
 - b. Internship knowledge brought home
 - c. Improved relationships between schools and families

Long-term Community Improvement

Through focus group responses, a major theme of the use of the internship program as a vehicle for long term community improvement emerged. Students, parents, teachers, employers, and headmasters of the four schools all projected that certain aspects of their communities, as well as their overall communities as a whole, would experience long-term improvement through: an increase in the number of people prepared to work in the agricultural industry; teachers, parents and students exhibiting an increased value in education; students and families making responsible financial decisions caused by the earning of money from internships; and the program’s projected ability to sustain itself, creating a perpetuating cycle of community improvement.

Increased Well-Prepared Workforce

An overarching theme that emerged from each of the focus groups is the role of internships as a vehicle for sustained community improvement. Internships not only provided students, parents, employers, teachers, and headmasters with specific benefits, but those benefits experienced by each group bled into one another to provide additional benefits to families, businesses, and schools that make up the communities. Students expressed improved employability skills, including self-confidence, communication skills, management skills, independence, presentation skills, practice in gaining trust from others through work, career planning, time management, language skills, and responsibility. Students explained that they wished they had improved language skills (specifically in English) and computer skills before participating in their internships. Employers also felt that students gained much needed employability skills. One employer explained that students originally lacked time management skills, which led to less trust and responsibility:

The work day is 7:00 a.m. to 1:00 p.m., but they might show up at 8:00 a.m. and still expect to leave at 1:00 p.m. I wanted to teach them to come in on time and to be punctual.

Another employer added to the need for students to gain employability skills, saying that he wished students had “come to work focused on work and put everything else aside.” Employers explained that they helped students improve these employability skills by giving them responsibility to create a sense of ownership. One employer said that he taught students to talk less and work more. Employers assigned students specific tasks and tried to make them independent as well as to think independently. Parents also expressed notable differences in their children, offering that they showed increased self-confidence, responsibility and a stronger personality. Teachers also noted improved communication skills and increased self confidence in their students. Headmasters further solidified the notion of students’ improved employability skills, claiming that students exhibit greater self-confidence, have more hope for the future, display a feeling of empowerment, and are able to take on greater responsibility. They identified one of the benefits of internships as the increase in self-value ATS students exhibit compared to those at other schools.

In addition to improved employability skills, each focus group noted the effect of internships on students’ technical skills. Students stated that they gained technical skills during their internships, and they wished that they had more technical and field work experience before they began their internships. Students also felt they lacked an adequate understanding of natural resources before they participated in their internships, and they were able to use environmental resources more wisely after their internships. Students expressed greater career focus, centering around their internship fields. They explained that internships gave them

hands-on experience that will help them gain employment in their internship fields. Some received a certificate from their employers that can be used when applying for jobs. Many students expressed plans for pursuing careers in their internship fields upon graduation, and some already hold jobs in areas in which they had an internship.

Employers also claimed the students gained valuable technical skills that will lead to a better prepared workforce; one employer stated that he has already hired three of the six students who have interned with him because the students are literate, eager to learn, and quickly became skilled employees. Employers stated that while the students were willing and able to learn quickly, they had little technical experience before their internships, and that they needed to start at the beginning with practices on the farm. One employer added to this by explaining that he learned not to depend on the school for technical training of the students; he has learned to assume that all technical training will be done on the farm. Another employer noted that he would like to see students come into the internship with more technical knowledge, using the recognition of plant diseases as an example. With regard to providing the technical experience that students gained, one employer had an employee work with the students until they knew the skill and were able to work independently. Another employer encouraged quality and efficiency in field work through the development of a productivity rate. He explained, "We want 20 hive checks in a set amount of time. Then we give the students feedback on their performance. We reward their work. Good work gets a reward."

Parents also noted the improvement in the technical skills of their children. One parent claimed that he was more comfortable with the idea of his son participating in an internship because he thought the experience would improve his son's technical skills. Teachers also

expressed a feeling of improved technical skills. One teacher felt that providing technical experience was the primary role of internships, while classroom instruction was to provide theory. Teachers also felt that internships helped students get jobs. Headmasters stated that students receive up-to-date technical knowledge and more skills from their internships, which leads to higher wages and a wider range of employment opportunities.

Increased Value in Education

In addition to increased employability and technical skills, focus groups consistently saw both students and teachers exhibit an increased value in education. As students learned more about the skills needed for career success, they also experienced academic benefits and expressed a desire to further increase their efforts and achievement in school. Students claimed that they received better grades after returning to school upon completion of their internships, and they now have a desire to apply knowledge they learned during their internships to their school programs. Students expressed the relevance they now view that scholastics hold in their lives through the competencies they wished they had prior to their internship, such as technical skills, language skills, fluency in English, computer skills, and a better understanding of natural resources. The new-found value of school in the students' lives was also expressed by the parents. One parent stated that his student could not afford to continue to attend school before his internship, but upon completion of the internship, he decided to spend his internship money on returning to school. Teachers also noted that students returned from their internships as "better students," both regarding grades and behavior. They explained that students are more self-confident and more willing to complete work at school, as well as help teach skills they learned during their internships to their

classmates. Headmasters also stated that students participate more in tending to the school farm and have better attendance and higher grades upon completion of their internships.

An increase in the value of education also emerged in the teachers. Teachers shared that they now make efforts to alter their teaching techniques to include active learning strategies upon seeing how much the students learned through active participation in practices at their internships. Headmasters also expressed that they noticed teachers developing new ways to teach so students could learn more technical skills in schools. They claimed that teachers were adopting new teaching practices active learning strategies. One headmaster stated that using active learning strategies was increasing teacher job satisfaction:

Our teachers are having to use less effort to teach the students because the students are now more involved in their own learning.

Headmasters explained that teachers are also more engaged in professional development. After attending workshops on using active learning strategies, they give workshops to other teachers. Headmasters would like to see the internship program incorporate more workshops for teachers so they can learn more about active learning strategies and have access to the newest information regarding agricultural science. However, they also stated a need for these workshops to be held in locations where teachers can have the opportunity to learn about new technology as well.

Responsible Financing

Benefits from internships were not limited to employability and academics. As students gained their own money, improvements in finances and financial management were experienced by students and their families. Students reported the internships gave them an increase in income, and they commonly used sound financial

management decisions when spending their money. Some students spent their new income on starting up ownership projects in the area of their internship, renting land, and/or engaging in new training experiences. One student reported that she began her own ownership project in perfume production after she completed an internship in the same area. Others stated that they shared their income with their families. Still others used their income toward academics, paying for school expenses, taking workshops to improve skills, engaging in career development, and saving it to further their education.

Parents claimed that the money the students earned in the internships made the students more responsible and grow as people. One parent said that before his daughter participated in an internship, she spent money unwisely: "Now she understands the value of money and uses it much more wisely." Headmasters also feel that internships have improved the students' financial management skills. While they noted that students had more income due to their internships, they also stated that students were not spending their money in coffee shops socializing, as they used to do before they participated in the internship experiences.

Sustainability of Internship Program

Each focus group expressed feelings that indicate an overall desire to continue the internship program, as well as provided reasoning for its sustainability. Several students noted that they were able to utilize the knowledge and income received in their internships to begin ownership projects, which allowed the students' initial internship money to yield future income, creating more family sustainability. Employers stated that they wish more students would participate in internships because they have a need for more literate employees. Additionally, they expressed satisfaction in regard to the amount they

paid students compared to the amount and quality of the work they received. When asked if they would recommend participation in the internship program to other business owners, all of the focus group members stated that they had already recommended the program to others. Employers said that when speaking to other business owners, they direct the owners to contact the school for information, and they recommend specific students to participate in the internships based on their internship experiences with these students.

Parents wanted to see the internship program not only continue but to expand as well. Requests for expansion included increasing the number of internships offered to each student, incorporating social aspects into the internship, offering a longer, strictly work-focused internship for graduates, and to extend the internship program to include all students. Parents stated that their students' experiences have led them to recommend the program to other parents of ATS students. Perhaps most indicative of the parents' motives behind the internship program's continuation was one parent's response:

“We want it to continue, and to extend [the internship] to have all students participate. The improvement of technical and social skills will, in time, improve the community.”

Headmasters expressed observations that they feel will allow the internship program to sustain itself. They stated that they have noticed parents competing to get their students accepted into internship positions. Relationships built between the ATS and businesses, business owners accepting the program as a part of their business operation, and the observed support of the General Manager for Agricultural Education all lead headmasters to believe that the internship program will be sustainable upon completion of the current MUCIA project. Lastly, sustainability of the program is expected by headmasters because

the benefits of the internship have not been attained in its absence; the headmasters noted that some students felt they did not need an internship, and instead went directly to the businesses for employment. The students returned to the school asking to participate in internships because they received low pay, poor food, and overall dissatisfactory experiences without the support and assistance of the ATS provided through the internship program.

Increase in School-Home-Community Collaboration

An increase in collaboration among schools, families, and communities also emerged as a theme running among each of the focus groups. As stated previously, teachers hold a greater value for education, which leads to a greater commitment on the teachers' part to collaborate with families and businesses in an effort to better educate students. Collaboration among these three entities has resulted in the development of relationships between the teachers and employers, internship knowledge improving family life, and increased trust among families, schools, and businesses.

Built Relationships between Teachers and Employers

The logistics of successful internships, including employer participation and appropriate student internship matching, were determined through communication between teachers and employers, which led to better relationships between the schools and community businesses over time. Employers stated that the teachers supplied employers with information about specific students and discussed technical skills needed for the particular internship. Teachers viewed their roles differently in the internship program, although all expressed roles that involve building relationships between the school and businesses. Stated roles included placement on the farms, surveying potential farms, training students

to prepare for the internships, visiting students periodically during their internships, and selecting students for participation in the internship program. Both teachers and headmasters specifically noted that they see the improved connections with community businesses as a result of the internship program that directly benefits schools. One headmaster also explained that the community now has more involvement in the school:

The community – both families and businesses – are more involved in the school. More students have jobs and less spare time. They can't hang out in coffee shops and get into trouble. Fewer bad things are happening in the community.

Headmasters elaborated on this relationship between the school and local businesses by explaining the benefits both receive. They stated that the students are sent to the businesses to learn the newest skills and earn income in the process. Businesses, in turn, receive cheap skilled labor and therefore experience an increase in profit. Headmasters stated that the mutual benefits resulting from this relationship allow the businesses to have more trust in the schools, and the constantly improving relationship will allow for the internship program to be sustained.

Internship Knowledge Brought Home

When first participating in the internships, several students noted that they were initially challenged by the work expected of them. They did not know about the work involved and, as stated earlier, they lacked the technical skills necessary to complete the work. However, these students also stated that they only felt incapable initially and were able to learn the skills quickly. Parents noted that their children brought new knowledge back home after their internships. One parent stated that his son returned home and implemented the knowledge he had learned about a state-of-

the-art irrigation system on the family land, which in turn increased the farm's efficiency.

Employers also helped skills learned in the internship transfer to the students' families by encouraging parents to learn the skills their children were picking up. This communication between employers and parents helped the parents feel more at ease about their decisions to allow their children to participate in the internships. Headmasters noted that the internships were providing families with both income and improvement on family farms, as well as providing opportunities for students to improve their behavior while at home. Headmasters noted that students had less free time due to their new jobs as well as a greater understanding for the value of earned money.

Improved Relationships between School and Families

Students noted that, originally, their parents were hesitant about allowing them to participate in the internship program. They explained that parental refusal stemmed from the length of time they would be away from their families for national internships; the 30-45 days was just too long to be gone.

Additionally, some parents of female children initially refused to allow their daughters to participate due to the societal restrictions placed on females. When learning about the internship program, parents were given information from the school through both their children bringing information home and through communication with teachers. As the parents became interested in the program, they visited the school and spoke with teachers, who encouraged parents to help their children learn technical skills. One parent described how collaboration between the school and home began:

I heard about [the internship program] from my daughter, who got the information from the school.

I was worried about my daughter working away from the family, but I visited the school. I am glad she participated – I even cultivated flowers for her to start her own perfume project after she finished her internship [in perfume production].

Another parent expressed concern for his son's safety, but stated that the teacher helped convince him that the internship experience is a good one and that his child was safe. The benefits of income and new knowledge to be applied after the students returned home helped parents see that the teachers had the best interests of the children in mind, further developing a trusting relationship between the school and families in the community.

Recommendations and Implications

The stakeholder groups on the ATS internship programs identified numerous benefits of the program in terms of preparing workforce-ready graduates. The ATS internship programs should be continued and expanded to involve additional schools and more students. A closer connection between what is taught in the schools and what is expected of internship participants is also needed.

Students and parents indicated that the students who participated in the internship program now have disposable income which they had never had previously. While there was indication that the students were making decisions regarding the use of their money, workshops should be developed for ATS instructors so that they can incorporate personal financial planning and small business finance and management competencies into the curriculum.

An important aspect of the internship program was the relationship among the students, parents and employers. Additional work in this area may be warranted in order to create a stronger program and to assure

additional participants, especially parents and employers, that the internship program adds value to the school, the community and the student participants.

Finally, the internship program for agricultural students in Egypt appears to have been implemented successfully. This could be a model for other countries that desire to improve the agricultural economy through a well-trained and productive workforce.

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