

## **Evaluation of Student's Industrial Work Experience Scheme (SIWES) on the Attainment of Employable Skills by Agricultural Education Graduates in Abia State**

**Ebere Collins, V.S.O. Ibe (PhD), Ononogbu Ngozi**

Department of Agricultural/Home Economics Education,  
Michael Okpara University of Agriculture, Umudike.  
[eberecollins2@gmail.com](mailto:eberecollins2@gmail.com), [ngobaby27@gmail.com](mailto:ngobaby27@gmail.com)

*The study was carried out to evaluate the extent SIWES programme has led to the attainment of employability skills by Agricultural Education Graduates in Abia State. The study was guided by three research questions and three hypotheses. The study adopted the Descriptive Survey Design. The population of the study was 239 which comprised 211 Heads of Agricultural Science from 211 public secondary schools across three Education Zones (Aba Ohafia and Umuahia) and 28 identified managers of Agro-allied industries/farms in Abia State. The sample of the study was 184 which comprised 156 Heads of Agricultural Science from 156 Secondary Schools and 27 identified managers of Agro-allied industries/ farms. The instrument for data collection was research questionnaire. The instrument was face validated by three experts and the reliability of the instrument was 0.81 which was derived using the Pearson's Product Moment Correlation Coefficient Statistic. The data was collected through the distribution of 184 copies of the research instrument to 184 respondents. The research questions were answered using the mean and standard deviations while the null hypotheses were tested using the independent sample t-test at 0.05 level of significance. The findings of the study revealed that SIWES programme has adequately equipped the students with employability skills in livestock production, while it did not adequately equipped the students with the basic skills in crop production and on skills of how to couple plough to tractor, drive and work with tractor in the farm, harvest crops using harvester. Based on the findings, the study recommends that SIWES coordinators should ensure that emphasis should be focused on providing employability skills in crop production and equip the students with the skills to utilize modern farm machinery.*

**Keywords;** evaluation, SIWES, employability skills, agricultural education graduates

### **Introduction**

The students of Agricultural Education are Students that are trained in the field of Agriculture to acquire the basic knowledge in Agricultural Science to impact on their students with the necessary skills for crop and livestock production so that the . Agricultural Science is one of the core vocational curricular subjects taught both in the Junior and Senior Secondary Schools in Nigeria (Modebulu & Nwakpadolu, 2013). The prospective teachers in Agricultural Science at both the secondary and primary school levels are offered admissions to study Agricultural Education in the Tertiary Institutions with the sole aim of becoming a competent teacher with the needed employability skills to teach and train students in crop and livestock production. Similarly the prospective graduates of Agricultural Education can be gainfully employed in Agricultural Farms/Agro-allied Industry, Banks etc. This implies that graduates of Agricultural Education are not limited to the teaching profession. This has made Egbule (2004) to define Agricultural Education as a process of training learners in the process of Agricultural productivity as wells as the techniques for teaching agricultural science. Waliki and Usman (2009) describes Agricultural Science Education as a broad multidisciplinary field that deals with the selection, breeding and management of Crops and domestic animals for economic production.

The graduates of agricultural education having acquired the needed employability skills are expected to work in farms/agro-allied industry to help maximize production output. The graduates of Agricultural Education are also expected to teach Agricultural Science in a professional approach to stimulate the student's interest in agricultural science and develop their interest in occupational careers in crop and livestock production which are some of the objectives of teaching agricultural science in schools.

In order to achieve these objectives, it therefore requires that the students of Agricultural Education department are expected to undergo professional teachers training in their course of study in tertiary institutions. One of the courses of study to which Agricultural Education students undergo in the tertiary institutions to acquire these knowledge and employability skill is the Students Industrial Work Experience Scheme (SIWES). The students of Agricultural Education in tertiary Institution are exposed to SIWES to enable them acquire the basic employability skills in both animal and crop production so as to become self-sufficient in food production and impact effectively to their students in the course of their teaching profession.

The Students Industrial Work Experience Scheme (SIWES) is a programme in the tertiary education that is designed to equip student with work skills, methods and processes of an industry (ITF, 2003). To this extent, Osimen and Nworji (2010) stated that the Student Industrial Work Experience Scheme is a skill training programme designed to expose and prepare the student of higher institutions for work situations, as they exist in the world of work. The authors noted that the scheme provides students with opportunities to familiarize themselves with and expose them to tools equipment and machines that are not available in their various institutions but which will be used after graduations. Hence the scheme is meant to develop the students with the employability skills needed to strive in the contemporary Nigeria's world of work.

The objectives of Students Industrial Work Experience Scheme (SIWES) in relation to Agricultural Education include: to produce an avenue for Agricultural Education students to acquire agricultural experiences and skills required for success in agricultural occupations; to prepare agricultural education students for working in agricultural enterprises after graduation; to expose Agricultural Education students in handling agricultural tools, equipment and machines that are necessary for carrying out agricultural productions; to help Agricultural Education students for easier transition from school to agricultural occupation; and to afford Agricultural Education students the opportunity of applying the knowledge gained in theoretical work into practical work in agricultural industry (Industrial Training Fund, 2003).

The Students Industrial Work Experience Scheme is usually undergone by students for a period of three months, six months or an academic session as the duration vary by discipline or the institution. For the Agricultural Education students, they are required to undergo compulsory SIWES programme for a period of four months to bridge the gap between theory and practice as it exist in the World of Work (Ugwuoke, 2012). The SIWES programme will help to expose the Agricultural Education student on the work skills needed in the areas of Crop productions, livestock production, Agricultural Economics, Agricultural Extension, as well as skills needed for handling agricultural equipment and machines that are necessary for carrying out crop and livestock production.

Thus, after been exposed to the SIWES programme, the Agricultural Education graduates are expected to have gain adequate employability skill that will enable them become self-employed and be productive in the secondary schools, agro allied industry and farms that will employ them upon graduation. To this extent Ralph (2016) noted that the graduate of Agricultural Education employed to teach students in the schools or work in the farms/ agro-

allied industry do not possess the employability skills required to teach in schools or work effectively in farms. Thus, the impact of the SIWES programme to Agricultural Education graduates has generated a lot of concerns as to whether the program is achieving its objectives of developing graduates of agricultural Education with the required work skill for employability in the World of work.

Hence, it therefore becomes necessary to evaluate the SIWES programme to ascertain the extent it has equipped the Agricultural Education Students with agricultural skills for employability in the different areas of Crop Production and Animal production. Evaluation is the systematic process of judging the worth, desirability, effectiveness or adequacy of something, according to definite Criteria or purpose (Monday, 2012). It therefore includes obtaining information (quantitative or qualitative) could be qualitative or quantitative for use in judging the worth of the programme or project in order to ascertain if it is meeting up with the desired objective. Thus, Evaluation of the SIWES programme becomes necessary to see whether the programme is achieving the objective it has set out to achieve. Hence the present study evaluated the SIWES programme with regards to the extent students have achieved employability skills in the area of crop production and animal production.

### **Statement of the Problem**

The students industrial Work Experience Scheme (SIWES) is a training undergone by the students of Agricultural Education which will help them to acquire practical knowledge in crop production, Animal Production and as well as skills needed for handling agricultural equipment and machines that are necessary for carrying out crop and livestock production. These will help to bridge the gap between theory and practice. Thus, the programme is expected to make them gain employability skills in the World of work after graduation so as to meet up the societal needs of self-sufficiency in food production.

However, it has been observed that graduates of Agricultural Education are not meeting up with the requirement of the Agro-allied industries and the teaching profession with the practical and employability skills needed to make adequate impact in their place of work which of course should have been acquired during their SIWES programme. Thus, this has made the graduates lost relevance in the labour market due to their incompetence.

Therefore, it is against this background that the present study will sought to evaluate the extent to which the SIWES programme has equipped students with the employability skills in Crop production, livestock production and as well as skills needed for handling agricultural equipment and machines that are necessary for carrying out crop and livestock production.

### **Purpose of the Study**

The main purpose of the study will be to evaluate the extent SIWES programme has led to the attainment of employability skills by Agricultural Education Graduates in Abia State. Specifically, the study will seek to:

- i. evaluate the extent the Students Industrial Work Experience Scheme (SIWES) has enabled graduate of Agricultural Education to acquire employability skills required for Crop production;
- ii. Identify the extent the Students Industrial Work Experience Scheme (SIWES) has enabled the graduate of Agricultural education to acquire employability skills required for livestock production; and
- iii. Find out the extent the Student Industrial Work Experience Scheme (SIWES) has enabled the graduates of Agricultural education acquire in handling agricultural

equipment and machines that are necessary for carrying out crop and livestock production.

### **Research Questions**

- i. To what extent has the SIWES programme equipped students with employability skills in crop production?
- ii. To what extent has the SIWES programme equipped student with employability skills in livestock production?
- iii. To what extent has the SIWES programme equipped graduates of Agricultural Education with employability skills in handling agricultural equipment and machines that are necessary for carrying out crop and livestock production?

### **Hypotheses**

**Ho<sub>1</sub>:** There is no significant difference in the mean response between the Heads of Departments of Agricultural Science and Farm Managers on the extent SIWES programme had equipped students with employability skills in crop production.

**Ho<sub>2</sub>:** There is no significant difference in the mean response between Heads of Departments of Agricultural Science and Farm Managers on the extent SIWES programme equipped students with employability skills in livestock production

**Ho<sub>3</sub>:** There is no significant difference in the mean response between Heads of Departments Agricultural Science and Farm Managers on the extent SIWES programme has equipped graduates of Agricultural Education employability skills in handling agricultural equipment and machines that are necessary for carrying out crop and livestock production?

### **Methodology**

The descriptive survey design was employed for the study. The study was carried out in Abia State of Nigeria. The population of the student was 239 which comprised 211 Heads of Agricultural Science from 211 public secondary schools across three Education Zones (Aba (76) Ohafia (76) and Umuahia (87)) and 28 identified managers of Agro-allied industries/farms in Abia State. The sample of the study was 184 which comprised 156 Heads of Agricultural Science from 156 Secondary Schools and 28 identified managers of Agro-allied industries/farms. The sample size of 156 Heads of Agricultural Science from 156 secondary schools was derived using the sampling formula of Kregcee and Morgan (1970). Multi-stage sampling technique was adopted in the selection of the sample of 156 Heads of Agricultural Science. The first stage involves the selection of the 156 Secondary Schools from the three education zones using the Proportionate Stratified Sampling technique with 56 from Aba Education Zone, 64 from Ohafia Zone and 36 From Umuahia Zone. The second stage involves the selection of secondary schools based on the local Government Areas that make up each Education Zone according to their relative proportion using the Proportionate Stratified Sampling technique. The third stage sampling technique involves the selection of the number of schools that make up each Local Government Area using the Simple Random Sampling. The last stage involves the selection of 156 Heads of Agricultural Science with one each from the 156 Secondary Schools Sampled for the study using the purposive sampling. Then purposive sampling technique was then used to select the 28 identified managers because of their manageable size. The instrument for data collection was titled "Evaluation of the students industrial Work Experience Scheme (SIWES) on the

attainment of employability skills of Agricultural Education students in Abia State (ESIWESESKAES). The instrument was face validated by three experts with one from the department of the Educational measurement and two from the department of Agricultural Education department. The reliability of the instrument was 0.81 which was derived using the Pearson's Product Moment Correlation Coefficient Statistic after the instruments have been subjected to test retest. The second test was administered two weeks from the first administration. The data was collected through the distribution of 184 copies of the research instrument to 184 respondents (156 Secondary Schools and 27 identified managers of Agro-allied industries/ farms) which were retrieved on the spot after the respondents completed the instrument. A total of 184 copies of the filled instruments were retrieved. The research questions were answered using the mean and standard deviations. The mean cutoff of 2.50 was used for decision where item mean below was regarded as rejected while above 2.50 was regarded as accepted. While the null hypotheses were tested using the independent sample t-test at 0.05 level of significance.

### Result and Discussions

Research Question1: To what extent has the SIWES programme equipped student with employable skills in Crop production?

**Table 1: The mean and standard deviation rating of the respondents Heads of Agricultural Science on the extent the SIWES programme equipped students with employable skills in Crop production**

S/NO	ITEMS	Heads of department Agricultural Science			Farm Managers		
		$\bar{X}$	S	Remarks	$\bar{X}$	S	Remarks
1.	The students can now identify the different soils for cultivation of different soils	2.60	0.75	Accepted	2.89	0.82	Accepted
2.	The students can now prepare beds for farming operations	3.03	0.61	Accepted	2.64	1.07	Accepted
3.	The students can now identify crop diseases and crop pest	2.28	0.98	Rejected	2.43	0.93	Rejected
4.	The students can carry out the different planting operations of crops	2.61	0.78	Accepted	2.53	0.91	Accepted
5.	The student control crop diseases using appropriate chemicals	2.24	0.76	Rejected	1.81	1.06	Rejected
6.	The students can identify appropriate fertilizer required by different crops	2.41	0.81	Rejected	2.26	0.71	Rejected
7.	The students can mix agrochemicals well	2.43	0.79	Rejected	2.41	0.86	Rejected
8.	The students can carry out weeding operations in the farm	3.43	0.81	Accepted	2.71	0.92	Accepted

## Evaluation of student's industrial work experience by Ebere, Ibe & Ononogbu

9.	The student can now value ridges, nursery bed and mounds	3.62	0.62	Accepted	3.52	0.73	Accepted
10.	The students now know pesticides to apply to the plant.	2.32	0.81	Rejected	2.31	0.71	Rejected
<b>Grand Mean</b>		<b>2.70 0.77</b>			<b>2.55 0.87</b>		

The analyzed data on table 1 showed that items 1,2,4,8 and 9 had respective means scores above 2.50 as indicated by the respective mean responses of both the Heads of Departments of Agricultural Science and Farm managers. Hence these indicated that both the Heads of Departments of Agricultural Science and Farm managers accepted that SIWES had equipped the students with employable skills in crop production with regards to items 1,2,4,8 and 9 as indicated on the table 2. The data on table 1 also showed that items 3,5,6,7 and 10 had respective mean scores below 2.50 as indicated by the mean responses of both the Heads of Departments of Agricultural Science and Farm managers. Hence these indicated that both the Heads of Departments of Agricultural Science and Farm managers disagreed that SIWES had equipped the students with employable skills in crop production with regards to the items 3,5,6,7 and 10

Research Question 2: To what extent has the SIWES programme equipped students with employable skills in livestock production?

**Table 2: The mean and standard deviation rating of the respondents' responses on the extent SIWES programme equipped students with employable skills in livestock production**

S/NO	ITEMS	Heads of department Agricultural Science			Farm Managers		
		$\bar{X}$	S	Remarks	$\bar{X}$	S	Remarks
11.	Brood chicks	2.60	1.06	Accepted	2.83	0.81	Accepted
12.	Feed livestock with right feeds at the right time	3.41	0.82	Accepted	3.02	0.64	Accepted
13.	Prepare and disinfect pens adequately	3.31	0.71	Accepted	3.03	0.66	Accepted
14.	Deworm farm animal at the right time with the correct dewormer	2.83	0.80	Accepted	2.89	1.01	Accepted
15.	Provide adequate ventilation in farm animal pens	3.17	0.79	Accepted	3.18	0.83	Accepted
	Treat the animal when they fall sick						
16.	Fatten livestock for sale	3.12	0.78	Accepted	3.18	0.81	Accepted
17.	Cull animals that are not desirable	2.86	0.73	Accepted	2.89	1.01	Accepted

## Evaluation of student's industrial work experience by Ebere, Ibe & Ononogbu

18.	Predict oestrus in farm animals	2.60	0.81	Accepted	2.71	0.92	Accepted
19.	Formulate different types of feeds for livestock Carryout different management practices	3.45	0.73	Accepted	3.21	0.81	Accepted
20.		3.14	0.82	Accepted	3.32	0.66	Accepted
	<b>Grand Mean</b>						
21.		2.87	0.93	Accepted	2.64	0.81	Accepted
		<b>3.03</b>	<b>0.82</b>		<b>2.98</b>	<b>0.82</b>	

The analyzed data on table 2 showed that items 11,12,13,14,15,16,17,18,19,20 and 21 had respective means scores above 2.50 as indicated by the respective mean responses of both the Heads of Departments of Agricultural Science and Farm managers accepted items 11,12,13,14,15,16,17,18,19,20 and 21. Hence these indicated that both the Heads of Departments of Agricultural Science and Farm managers accepted that SIWES had equipped the students with employable skills in crop production with regards to items 11,12,13,14,15,16,17,18,19,20 and 21 as indicated on the table 2.

Research Question 3: To what extent has SIWES programme equipped graduates of Agricultural Education with employable skills in handling agricultural equipment and machines that are necessary for carrying out crop and livestock production?

**Table 3:** The mean and standard deviation rating of the responses of Heads of Agricultural Science and farm managers on the extent SIWES has equipped graduates of Agricultural Education with employable skills in handling agricultural equipment and machines that are necessary for carrying out crop and livestock production

S/NO	ITEMS	Heads of department Agricultural Science			Farm Managers		
		$\bar{X}$	S	Remarks	$\bar{X}$	S	Remarks
22.	couple plough to tractor	1.36	0.92	Rejected	1.11	0.77	Rejected
23.	drive and work with tractor in the farm	1.46	0.71	Disagreed	1.39	0.81	Disagreed
24.	use knapsack sprayer to spray agrochemicals.	3.43	0.68	Accepted	3.10	0.67	Disagreed
25.	use milking machine to extract milk from cow cultivate the soil with ridger	2.89	1.01	Accepted	2.62	0.71	Disagreed
26.	harvest crops using harvester	3.43	0.72	Accepted	2.70	0.83	Disagreed
27.	store agricultural tools well after use.	1.87	0.96	Disagreed	1.76	0.81	Disagreed

Evaluation of student's industrial work experience by Ebere, Ibe & Ononogbu

28.	maintain the equipment and machines to prevent damage.	2.86	0.73	Accepted	2.91	0.86	Accepted
29.	handle incubator for incubating eggs	2.60	0.81	Accepted	2.71	0.92	Accepted
30.	work with planters in the farm	1.47	0.98	Rejected	1.67	0.87	Rejected
31.		2.21	0.83	Disagreed	2.31	0.78	Disagreed
	<b>Grand Mean</b>	<b>2.36</b>	<b>0.84</b>		<b>2.230.80</b>		

The analyzed data on table 3 showed that items 24,25,26,28 and 29 had respective means scores above 2.50 as indicated by the respective mean responses of both the Heads of Departments of Agricultural Science and Farm managers. Hence these indicated that both the Heads of Departments of Agricultural Science and Farm managers accepted that SIWES had equipped the students with employable skills in handling agricultural equipment and machines that are necessary for carrying out crop and livestock production with regards to the items 24,25,26,28 and 29 on table 2. The data on table 3 also showed that items 22, 23,27, 30 and 31 had respective mean scores below 2.50 as indicated by the mean responses of both the Heads of Departments of Agricultural Science and Farm managers. Hence these indicated that both the Heads of Departments of Agricultural Science and Farm managers disagreed that SIWES had equipped the students with employable skills in handling agricultural equipment and machines that are necessary for carrying out crop and livestock production with regards to the items 22, 23, 27, 30 and 31 on table 3

Hypotheses 1: There is no significant difference in the mean responses between the Heads of Agricultural Science and Farm Managers on the extent SIWES programme had equipped students with employable skills in crop production.

**Table 4:** The t-test analysis of the difference in the mean response between the Heads of Agricultural Science and Farm Managers on the extent SIWES programme equipped students with employable skills in crop production

Groups	Number	Mean	S	DF	t-cal	p-value	Decision
Heads of department Agricultural Science	156	2.70	0.77	182	0.93	0.353	Not significance
Farm Managers	28	2.55	0.87				

The data on table 4 showed a t-calculated value of 0.93 with a P. value of 0.353 which is greater than 0.05 at 0.05 level of significance. This implies that the null hypothesis, which states that there is no significant difference in the mean responses between the Heads of Agricultural and

Farm Managers on the extent SIWES programme equipped students with employable skills in production in crop production was retained.

Hypotheses 2: There is no significant difference in the mean response between Heads of Agricultural Science and Farm Managers on the extent SIWES programme equipped students with employable skills in livestock production.

**Table Five: The t-test analysis of the difference in the mean response between the Heads of Agricultural Science and Farm Managers on the extent SIWES programme equipped students with employable skills in livestock production**

<b>Groups</b>	<b>Number</b>	<b>Mean</b>	<b>S</b>	<b>DF</b>	<b>t-cal</b>	<b>p-value</b>	<b>Decision</b>
Headsof department Agricultural Science	156	3.03	0.82	182	0.30	0.767	Not significance
Farm Managers	28	2.98	0.82				

The data on table 5 showed a t-calculated value of 0.30 with a P. value of 0.767 which is greater than 0.05 at 0.05 level of significance. This indicates that the null hypothesis was retained, which implies that there is no significant difference between the mean response the Heads of Agricultural Science and Farm Managers on the extent SIWES programme equipped students with employable skills in livestock production.

Hypotheses Three: There is no significant difference in the mean response between Heads of Agricultural Science and Farm Managers on the extent SIWES programme has equipped graduates of Agricultural Education with employable skills in handling agricultural equipment and machines that are necessary for carrying out crop and livestock production.

**Table Five: The t-test analysis of the difference in the mean response between the Heads of Agricultural Science and Farm Managers on the extent SIWES programme has equipped graduates of Agricultural Education with employable skills in handling agricultural equipment and machines that are necessary for carrying out crop and livestock production**

<b>Groups</b>	<b>Number</b>	<b>Mean</b>	<b>S</b>	<b>DF</b>	<b>t-cal</b>	<b>p-value</b>	<b>Decision</b>
Headsof department Agricultural Science	156	2.36	0.84	182	0.76	0.449	Not significance
Farm Managers	28	2.23	0.80				

The data on table 6 showed a t-calculated value of 0.76 with a P. value of 0.449 which is greater than 0.05 at 0.05 level of significance. This indicates that the null hypothesis was retained, which implies that there is no significant difference in the mean responses between the Heads of Agricultural Science and Farm Managers on the extent SIWES programme has equipped graduates of Agricultural Education with employable skills in handling agricultural equipment and machines that are necessary for carrying out crop and livestock production?.

### **Discussions of findings**

#### **The extent SIWES programme has equipped the Agricultural Science student with employable skills in Crop production**

The result of the analysis on table 1 revealed that Agricultural Education students can now identify the different soils for cultivation of different crops, prepare beds for farming operations, carry out the different planting operations of crops, weeding operations in the farm and the students can now make ridges, nursery bed and mounds. The findings is in agreement with the findings of Ugwuoke (2012) whose findings revealed that SIWES has enabled Agricultural Education graduates of Colleges of Education acquire agricultural skills in Crop production and skill to great extent especially in identifying different soil from different soil, students can now prepare beds for farming operations, can now carry out weeding operations and can now make ridge nursery, beds and mounds.

The results also showed that the respondents disagreed that the students can now identify crop diseases and crop pest, control crop diseases using appropriate chemicals and identify appropriate fertilizer required by different crops, mix agrochemicals well and know pesticides to apply to the plant. The findings disagrees to the findings of Ugwuoke (2012) and Mafe (2010) and who in their separate findings revealed that to a great extent the student can now identify crop diseases, control diseases using appropriate pesticides and know how to mix agro chemicals and know the right pesticides to apply to the plant. Thus, this is evident since the student are after graduation do not usually excel in crop production as they do not possess the employability skills required for successful crop production.

The result of the corresponding hypothesis on table 4 revealed that mean responses between the Agricultural Science Heads and Managers of Agricultural Industries on the extent SIWES programme has equipped students with employability skills in crop production do not differ significantly. This finding is in agreement with the findings of Ugwuoke (2012) whose findings revealed that there is no significant difference in the mean responses of Secondary School Agricultural Science Heads and Managers of Agricultural Industries on the extent SIWES has enabled Agricultural Education graduates of Colleges of Education acquire agricultural experiences and skills required for success in crop production. The findings was attributed to the fact that the respondents have different views on the extent the SIWES programme has equipped the students with employability skills in crop production.

The implication of the findings is that the students after graduation will not thrive very well in crop production since they are not adequately equipped with the employability skills required for crop production.

#### **The extent SIWES programme has equipped students with employable skills in livestock production**

The result of the analysis on table 2 revealed that Agricultural Education students can now Brood chicks, feed livestock with right feeds at the right time, prepare and disinfect pens

adequately, deworm farm animal at the right time with the correct dewormer, provide adequate ventilation in farm animal pens, treat the animal when they fall sick, fatten livestock for sale, cull animals that are not desirable, predict oestrus in farm animals, Formulate different types of feeds for livestock and Carryout different management practices such as dehorning, debeaking, castrate, identifying the livestock. These findings are in agreement with the findings of Ugwuoke (2012) whose findings revealed that SIWES has enabled Agricultural Education graduates of Colleges of Education acquire agricultural skills in livestock production such as the students are equipped with skills to Brood chicks, feed livestock with right feeds at the right time, prepare and disinfect pens adequately, deworm farm animal at the right time with the correct dewormer, provide adequate ventilation in farm animal pens, treat the animal when they fall sick, fatten livestock for sale, cull animals that are not desirable, predict oestrus in farm animals, Formulate different types of feeds for livestock and Carryout different management practices such as dehorning, debeaking, castrate, identifying the livestock. The findings of the present study was reflection of the fact the students can manage poultry business after graduation

The result of the corresponding hypothesis on table 5 revealed that means responses between the Agricultural Science Heads and Managers of Agricultural Industries on the extent SIWES programme has equipped students with employability skills in livestock production do not differ significantly. This finding is in agreement with the findings of Ugwuoke (2012) whose findings revealed that there is no significant difference in the mean responses of Secondary School Agricultural Science Heads and Managers of Agricultural Industries on the extent SIWES has enabled Agricultural Education graduates of Colleges of Education acquire agricultural experiences and skills required for success in livestock production. The findings was attributed to the fact that the respondents have different views on the extent the SIWES programme has equipped the students with employability skills in livestock production.

The implication of the findings is that the students of Agricultural Education after graduation will thrive very well in livestock production since they are adequate equipped with the employability skills required for livestock production. Hence the student after graduation can be self-employed in livestock production, this accounts for why most graduates of Agricultural Education engages themselves in livestock production rather than crop production.

### **The extent SIWES programme has equipped graduates of Agricultural Education with employable skills in handling agricultural equipment and machines that are necessary for carrying out crop and livestock production**

The result of the analysis on table 3 revealed that the SIWES programme has equipped the graduates of Agricultural Education students in handling agricultural equipment and machines that are necessary for carrying out crop and livestock production such as the use of knapsack sprayer to spray agrochemicals, use of milking machine to extract milk from cow, cultivate the soil with ridgers, store agricultural tools well after use and maintain the equipment and machines to prevent damage. This finding is in agreement with the findings of Ugwuoke (2012) whose findings revealed SIWES has exposed Agricultural Education graduates of Colleges of Education in handling agricultural equipment and machines for agricultural production. They include: coupling plough to tractor, driving and working with tractor, using knapsack sprayer to spray agrochemicals, using milking machine to extract milk from cow, cultivating with the ridger, spraying insecticide using mist blower, among others. This was evident as students could use the equipments without hitch.

The result of the analysis on table 3 revealed also that the SIWES programme has not equipped the graduates of Agricultural Education students on skills of how to couple plough to tractor, drive and work with tractor in the farm, harvest crops using harvester, handle incubator for incubating eggs and work with planters in the farm. This findings is in disagreement with the findings of Ugwuoke (2012) whose findings revealed SIWES has exposed Agricultural Education graduates of Colleges of Education in handling agricultural equipment and machines for agricultural production which includes skills of how to couple plough to tractor, drive and work with tractor in the farm, harvest crops using harvester, handle incubator for incubating eggs and work with planters in the farm to a very little extent. The findings could be attributed to the fact that the SIWES coordinators in did not really involved the students in the effective utilization of farm equipment such as driving of tractor, milking machines, among others.

The result of the corresponding hypothesis on table 6revealed that mean responses of the Agricultural Science Heads and Managers of Agricultural Industries on the extent SIWES programme has equipped graduates of Agricultural Education in handling agricultural equipment and machines that are necessary for carrying out crop and livestock production do not differ significantly. This finding is in agreement with the findings of Ugwuoke (2012) whose findings revealed that there is no significant difference in the mean responses of Secondary School Agricultural Science Heads and Managers of Agricultural Industries on the extent SIWES has enabled Agricultural Education graduates of Colleges of Education acquire skills in handling agricultural equipment and machines that are necessary for carrying out crop and livestock production. The implication of the findings is that the students of Agricultural Education after graduation are not adequately equipped with modern facilities in agricultural production; hence they cannot be technically effective to large scale farms that utilize modern agricultural equipment.

### **Conclusion**

The findings of the study showed that the SIWES programme have not adequately equipped the student with employability skill in crop production especially in the aspects of identifying crop disease and crop pest fertilizers required by different crops, however the students do not acquire skill on how to mix agro chemicals well and students do not know pesticides to apply to the plant. The Animal production is also an important aspect of Agricultural science, which students undergo during SIWES programme and such will equipped the students with the basic skills in animal production. Lastly, the SIWES programme has not equipped the graduates of Agricultural Education on skills of how to couple plough to tractor, drive and work with tractor in the farm, harvest crops using harvester, handle incubator for incubating eggs and work with planters in the farm.

### **Recommendations**

Based on the findings of the study, the following recommendations were made.

1. The SIWES coordinators should ensure that emphasis should be focused on providing employability skills in crop production especially in areas of identifying crop diseases and pest, controlling crop diseases using appropriate chemicals and identify appropriate fertilizer required by different crops, mix agrochemicals well and know pesticides to apply to the plant

2. The SIWES coordinators should ensure that there is adequate supervision of the agricultural education students undergoing SIWES so that objective of the SIWES would be achieved.
3. The SIWES coordinators should ensure that coordinators of the farm machinery Unit adequately equip the students with the skills to utilized modern farm machinery such as the tractors, incubators, planters, among others.

## Reference

- Egbule, P.E (2004). *Fundamentals and practice of agricultural education*. Owerri: Totan Publishers Ltd.
- Industrial Training Fund (2003). *Students industrial work experience scheme in human Resource development in Nigeria*. Jos: Industrial Training Fund.
- Mafe, O.A.T. (2010). Effectiveness of SIWES with Respect to Chemical Engineering. A Paper Presented at the Workshop on "Achieving the Necessary Professional Standards in Chemical Engineering in our Universities" organized by the Nigerian society of chemical engineers, University of Lagos.
- Modebelu, M. N. & Nwakpadolu, G. M (2013). Effective teaching and learning of agricultural science for food security and national sustainability. *Journal of Educational and Social Research Vol. 3 (4), 161-170*
- Monday T.J (2012). *Fundamentals of test and measurement in education*. Calabar: University of Calabar Press.
- Osinem, E.C. & Nwoji, U.C. (2010). *Students industrial work experience in Nigeria: Concepts, principles and practice*. Enugu: Cheston Agency Limited.
- Ralph C.E (2016). *Evaluation of student's industrial work experience scheme in Abia State*. An Unpublished B.Sc project submitted to the Department of Agricultural Education, Micheal Okpara University of Agriculture, Umudike.
- Ugwuoke C.U. (2012). Appraisal of students' industrial work experience scheme graduates performance in agricultural education in colleges of education. A published M.Ed theses submitted to the post graduate school, University of Nigeria, Nsukka
- Waliki, L.M. & Usman, M. (2009). Achieving the millennium development goals – MDGs by 2015 through effective teaching of agricultural science in Nigeria. *The Voice of Teachers*, 1(1), 32 – 36.