CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Agricultural science is one of the subjects taught to students in secondary schools. Agricultural science as reported in National Economic Empowerment Strategy (NEEDS) (2005) is the application of scientific principles to the growing of crops and rearing of animals for man's use. Agricultural science is a blend of many of the basic pure and applied sciences for example botany, zoology, chemistry, and genetics among others. Ifeanyieze and Ukonze (2013) cited a report of the New National Curriculum on Agricultural Science as saying that objectives of senior secondary school agricultural science are to:

a) Stimulate and sustain students interest in agriculture
b) Enable student acquire basic knowledge and practical skills in agriculture.
c) Prepare students for further studies in agriculture.
d) Prepare and expose students to occupations and opportunities in the field of agriculture.

For the achievement of these objectives, it is necessary to give due emphasis to the teaching of agricultural science by the teachers and other stakeholders to students in senior secondary schools since it prepares and shapes their dreams and visions, therefore teachers of agricultural science in secondary schools are to impart knowledge, skills and attitudes in the area of their subject to the students (Ugbanga and Egbunomu, 2008).

A teacher of agricultural science in the opinion of Olaitan, Asogwa and Assouzu (2010) is an individual who is trained in the pedagogical and technical areas of agricultural science and is charged with the responsibility of imparting knowledge, skills and attitudes to students. The

pedagogical aspect of teaching deals with the use of selected techniques and methods to present the content that is technical areas of agricultural science to the students in order to attain the learning objectives. The technical aspect deals with the whole content of agricultural science as indicated in the different sections and topics. This requires practical activities and experiences in the field.

The teacher during instruction is mindful of the achievement of objectives of agricultural science for senior secondary schools as stated in the national curriculum by the Nigerian Education Research and Development Council (NERDC, 2009).

However, Olaitan et al. (2009) defined a teacher as somebody who teaches especially as a professional. An Agricultural teacher is one who educates students about agriculture, food and natural resources. A teacher of agriculture is a professional in the field of teaching agriculture. Therefore in the context of this study, an agricultural teacher is an individual who is trained in the areas of agriculture thereby having the skills involved and is charged with the responsibility of impacting acquired knowledge and skills to students in Senior Secondary School. Since it is the responsibility of the teachers of agriculture to equip their students with the necessary skills in agricultural activities, in other to enable them develop interest and use these skills in future. It is necessary to find out the skills possessed by these teachers and its related effects on the teaching of agricultural science mostly at senior secondary schools

Capacity building as defined by Asogwa et al. (2010) is the act of developing the level of knowledge, skills, and attitude possessed by an individual in a given job to maximize profit and enhance income. Capacity building, in the opinion of Nwobu et al. (2009), is an effort geared towards improving the level of knowledge, skills, and attitude possessed by an individual for

proficiency in a given task or job. In the context of this study, capacity building is the effort geared towards improving the skills possessed by teachers of agriculture.

A teacher, in the view of Obenewa (2007) is someone who has undergone the necessary and recommended training in a teacher preparatory programme and is charged with the full responsibility of managing the classroom in such a way as to enhance the learning behavior of the students. It is the onus of a teacher of agriculture to expose the students to knowledge, principles and technical skills in the content areas of agriculture such as organic farming to enable them practice it both in the schools and at homes.

Teachers of agricultural science acquire capacity building skills in agriculture from their lecturers while being trained as students in the university and other tertiary institutions; this enables them to teach and evaluate secondary school students for performance before they are allowed to graduate (Osinem, 2008).

Daramola (2005) described an effective agricultural science teaching as a process whereby professionally trained teachers are employed to instruct learners through the process of sciencing in well-structured and organized settings in agriculture available within the school systems. To ensure that effective agricultural science teaching is achieved in the senior secondary schools there must be good planning that are adequate for proper assessment of science teaching and learning outcome (ICSU, 2008). As a facilitator of knowledge, skills and values to the society, teachers in Nigeria and in order parts of the world, are always considered as the nations' greatest asset. Hence, teachers must be able to play their roles and fulfil their responsibilities to their utmost capabilities. Therefore, teachers must be well prepared for the profession as well as maintain and improve their skills through life long career learning. That is, there is need for science teachers to be effectively prepared and equipped in the pedagogical

content and approaches of teaching science, since the quality of teaching determines the outcome of the result.

In Ikwuano Local Government of Abia State and its environs, the situation calls for the need to equip teachers with the necessary knowledge and skills which include issues relating to the quality of teaching and learning sciences. Ikwuano Local Government Area like other states is confronted with the problem of inadequate trained science teachers especially in the teaching of core science subjects like agricultural science. In this case teachers of agricultural science subject are often required to teach science subjects which are not trained for in our secondary schools.

Though these categories of teachers might have used various kinds of strategies in their teaching, they are in serious need for in- service training course in order to teach agriculture meaningfully and effectively whilst filling the gaps of constant and pedagogical content knowledge in the subject that they are required to teach (Subahan, Lilid, Khalijah and Rahizan 2008).

The term capacity building emerged in the lexicon of international development during the 1990s. Capacity building is the process by which teachers obtain, improve, and retain the skills and knowledge needed to do their jobs competently (United Nations Committee, 2010). Capacity building uses human, scientific, technological, and institutional and resource capabilities. The goal of capacity building is to tackle problems related to policy and methods of development in education, while considering the potential, limits and needs of the individuals in the profession of teaching (Kaplan, 2009).

Capacity building requires the development of conditions that allow teachers to build and enhance knowledge and skills. It also calls for the establishment of conditions that will allow individuals to engage in the "process of learning and adapting to change" (Wagner, 2008).

Shahid (2013) opines that capacity building of teachers simply refer to a systematic and integrated approach to develop and continuously improve their individual competences and capabilities necessary for achieving safe, secure and sustainable educational.

Capacity building in the view of Olaitan, Alaribe and Nwobu (2009) is the effort geared towards improving the level of knowledge, skills and attitude possessed by a school teacher for proficiency in teaching profession. Olaitan et al. (2009) continued to state that capacity building is the effort geared towards improving the level of knowledge, skills and attitude possessed by teachers of agricultural science in the utilization of agricultural related facilities to enhance skill acquisition among senior secondary school students across the state.

According to Hornsby (2006) capacity is described as the ability, knowledge, skills, fitness, experience and proficiency needed by an individual to get a particular task The intention of building capacity needs of science teachers is to provide the right atmosphere for the understanding of concepts, development of scientific skills and attitudes among teachers. The science teachers might be ill-prepared by exposing them to those activities and skills that will not equip them with the needed capacities for planning senior secondary schools science instructions.

Anaekwe (2007) refers to a need as a shortfall between what is available and what is expected. Osinem and Nwoji (2010) opined that need may arise anytime an actual condition differs from a desired condition in the human or people or aspect of organization performance.

Thus, the capacity building needs of science teachers is seen as the process of strengthening and equipping agricultural teachers with the content understanding, skills, access to information, functional knowledge and training that will enhance their planning performances in an efficient and effective way (ICSU, 2008).

Therefore to a great extent, the importance of capacity building needs should be taken into cognizance for assessing the competency of teachers teaching agricultural science at senior secondary schools. It is on this basis that this work is initiated to assess the capacity building needs of secondary school teachers teaching agriculture.

1.2 Statement of the Problem

Education is a basic and fundamental right, means of social mobility and socio-economic development. Despite various efforts by key educational stakeholders to improve students' performance through provision of resources for school improvement and provision of subsidized public secondary school tuition to improve access to education and availability of qualified teachers; the trend on students' performance in some public secondary schools is inconsistent and remains poor. In addition, questions have been raised on teacher competences and whether teachers have the capacity to ensure students' perform highly in academic achievement in secondary schools.

However, lack of the capacity building needs of agricultural science teachers teaching agriculture at senior secondary schools have affected the performances of these students sitting for agriculture at internal and external examinations and also has affected the technical/vocational/skill acquisition of students' thereby causing the teaming youths to lack interest in the practice of agriculture and other agricultural related activities.

However, in Ikwuano Local Government Area of Abia State, teachers of agricultural science has lacked the required competent capacity building skills for inculcating norms, ethics and knowledge of agriculture. This is evident due to the poor performance of student and lost of interest among students both in practical and theoretical aspects of agriculture.

Thus, Umar and Adedokun (2006) noted that agricultural science teachers need to update their professional capacity development, commitment, creativity, mechanical skills, resourcefulness and initiative for carrying out agricultural science instruction. However, it is on these bases that the researcher deemed it necessary to conduct this study on capacity building needs of secondary school teachers teaching agriculture in handling secondary school students in Ikwuano Local Government Areas.

1.3 Purpose of the study

The purpose of this study is to identify the capacity building needs of secondary school teachers teaching agriculture in handling secondary school students using Ikwuano Local Government Areas as a Case Study. The specific objectives are to:

1) Find out the capacity building needs of teachers in planning of agricultural instructions

2) Determine the capacity building needs of secondary school teachers in implementing agricultural instruction

3) Find out the capacity buildings of teachers of agriculture in evaluation of instruction

4) Determine the capacity building needs of teachers of agriculture in resources.

5) Determine the capacity building needs of teachers of in school farm management.

1.5 Research questions

The study would answer the following research questions

1) What are the capacity building needs of teachers in planning of agricultural instructions?

2) What are the capacity building needs of secondary school teachers in implementing agricultural instruction agricultural science?

3) What are the capacity buildings of teachers of agriculture in evaluation of instruction?

4) What are the capacity building needs of teachers of agricultural science in resource?

5) What are the capacity building needs of teachers of in school farm management?

1.6 Significance of the Study

The findings of this research will be of great benefits to the following bodies or group of people: students of senior secondary schools, teachers of agriculture, school administrators, curriculum planners and parents.

The findings will assist the students to acquire great skills that will make them to become competent in the all branches of agriculture both in school and after graduation. The teachers would benefit from this study in multiple ways; the findings of this study would help enhance teachers' teaching effectiveness and productivity. Also their skills will be improved and new knowledge will be learnt. They will find the job more interesting and derive more pleasure and satisfaction from it. Also, the agricultural syllabus added by the curriculum planners will give the teachers easy guideline on how to teach effectively for the better understanding of the

students. The findings of the stud would help school administrators in planning, reviewing and implementing capacity building needs of agricultural teachers when enrolling for employment.

The findings of this research study will help the curriculum planners to be acquainted with the capacity building needs of teachers of agriculture for all round agricultural activities both theoretically and practically

Parents will benefit from the findings of the study as their wards will no longer search for long period of time before being employed, thereby creating relief and improving economic status for the home.

1.7 Scope of the Study

The scope of the study is limited to the assessment of capacity building needs of teachers of agriculture in Ikwuano Local Government Area. The information required from the respondent will be restricted to the relevant capacity building needs of teachers in the ascertaining the capacity building needs of teachers in planning of agricultural instructions, determine the capacity building needs of secondary school teachers in implementing agricultural instruction, find out the capacity buildings of teachers of agriculture in evaluation of instruction, determine the capacity building needs of teachers of agriculture in resources and determine the capacity building needs of teachers of in school farm management.

CHAPTER TWO

LITERATURE REVIEW

The related literature will be reviewed under the following headings:

Conceptual Framework

- ❖ Concept of capacity building
- ❖ Teacher's capacity building
- ❖ Historical perspective of Needs assessment
- ❖ Teacher Capacity Building and Students' Performance
- ❖ Importance of Teachers' Capacity Development to Students' Performance
- ❖ Capacity Building Strategies for evaluating Students Performance

Theoretical Framework

- ✔ Constructivist Theory
- ✔ Needs Assessment Theory
- ✔ Theory of Vocational Education

Empirical Framework

Summary of Related Literatures

2.1 Conceptual Framework

2.1.1 Concept of Capacity Building

The term capacity has many different meanings and interpretations depending on who uses it and in what context. To begin with, capacity building as a concept is closely related to

education, training and human resource development. This conventional concept has changed over recent years towards a broader and more holistic view, covering both institutional and country base initiatives (Enemark and Ahene, 2003).

Capacity Building describes the task of establishing human and institutional capacity. Osinem and Nwoji (2010) stated that Capacity building is the development of the knowledge, skills and attitude of individuals/workforce in an organization to their full capacity. Osinem and Nwoji further added that capacity building is the process of developing organizational infrastructures/assets, technical skills and institutional capacity. Capacity building entails investment made with the purpose of enhancing the ability of individuals, workforce, and organizations to achieve their developmental goals.

The United Nation Development Programme UNDP (2010) defines capacity building as "activities which strengthen the knowledge, abilities, skills and behaviour of individuals and improve institutional structures and processes such that the organization can efficiently meet its mission and goals in a sustainable way. UNDP further stated that Capacity building is much more than training and includes the following:

- Human resource development, the process of equipping individuals with the understanding, skills and access to information, knowledge and training that enables them to perform effectively.
- Organizational development, the elaboration of management structures, processes and procedures, not only within organizations but also the management of relationships between the different organizations and sectors (public, private and community).

- Institutional and legal framework development, making legal and regulatory changes to enable organizations, institutions and agencies at all levels and in all sectors to enhance their capacities

Capacity building is an evidence-driven process of strengthening the abilities of individuals, schools, and systems to perform core functions sustainably, and to continue to improve and develop over time. Capacity building can be defined straightforwardly as a process for strengthening the management and governance of an organization so that it can effectively achieve its objectives and fulfil its mission (Beesley and Shebby, 2010; Connolly and York, 2008).

Capacity building is an intervention that strengthens an organization like school's ability to fulfil its mission by promoting sound management, strong governance, and persistent rededication to achieving results of eradicating illiteracy (Wing, 2014).

Capacity building can be seen as a change process targeted at "aligning beliefs and new or refined practices with desired growth targets" within an organization (Harsh, 2010). For organizations to be effective, organizational capacity building requires deliberate and planned change (Fixsen et al., 2005).

However, there have been policies that that mission of capacity building in a given organization must possess (Wing, 2001; Milen, 2001; mcKinsey and Company, 2001):

- sufficient numbers of staff who possess the necessary knowledge and skills,
- appropriate and adequate technical and management systems,
- suitable physical infrastructure, and
- ample financial and other resources.

Thus, capacity building is not limited to training personnel or the provision of technical assistance, but may include overhauling systems, remodeling physical infrastructure, recruiting new personnel, and improving the efficiency of the use of existing resources (Wing, 2004).

Nwanoruo (2001) stated that a teacher who is well trained at the beginning of a career rapidly falls behind as a result of latter developments in his areas, unless such a teacher continues to receive additional training. However, the National Policy on Education (2004) stated that In-service training shall be developed as an integral part of continuing teacher education and shall also take care of all inadequacies.

Capacity building encompasses Human Resource Development (HRD) as an essential part of development. It is based on the concept that education and training lie at the heart of development efforts and without HRD most development interventions will be ineffective. It focuses on a series of actions directed at helping participants in the development process to increase their knowledge, skills and understanding and to develop the attitudes needed to bring about the desired developmental change (Abdul, 2006).

Capacity building, in the submission of Nwobu, Amusa and Olaitan (2009), is an effort geared towards improving the level of knowledge, skills, and attitude possessed by an individual for proficiency in a given task or job. Asogwa, Dumbiri and Omeje (2010) said that capacity building is the act of developing the level of knowledge, skills, and attitude possessed by an individual in a given job to maximize profit and enhance income.

Groot and Paul (2000) defined capacity building as the development of knowledge, skills and attitudes in individuals and groups of people relevant in design, development, management and maintenance of institutional and operational infrastructure and processes that are locally meaningful. Hence, human capacity building can be described as a deliberate effort by

Government and people to provide the right number of workers at the right area of need and at the right time in an economy.

Human beings become productive resource or human capital only when they are able and in a position to contribute meaningfully to productive economic activities. They have to be trained to become agents of production and economic activities. Without training they remain passive, potential and inactive to factors of production, consequently, human development has been seen as the ultimate concern of all types of development economic, social, cultural and political (Ajeyalemi, 2002).

Ajeyalemi (2002) study stated that the higher the quality of the teacher in knowledge and skills, the higher the quality teaching and education expected. Likewise, the higher the quality of education offered in the system, the higher the quality of national development expected. Thus, without quality teachers, not much of national development may be expected. For the quality of the teacher to be maintained, the teacher must update herself always -in order to remain relevant at all times. That is teachers must be prepared to face new challenges as they occur in the system.

According to Mohammed (2006) research on teacher education has consistently stressed the need to regularly provide opportunities for teachers to improve their knowledge of the subject matter they teach and the teaching skills they learned in the pre-service courses they attended. This is based on the recognition of the fact that we live in a rapidly changing world such that whatever knowledge and skills teachers acquired in their pre-service training becomes stale very fast as new challenges and realities emerge in the socio-economic and political environments.

Capacity training is inevitable tool to improved productivity. Ibukun (2004) expressed that teachers should go for training programmes through appropriate seminars, workshops, symposia, conferences, this he said is because of the rapid obsolete of knowledge and method of teaching. Therefore, for capacity building to be effective, it must respond to the growth and developmental needs of the individual as well as those of the relevant institutions. For all practical purposes, teachers' capacity building is ultimately engendering development, growth and excellence within an education system/sector.

2.1.1.1 Process of capacity building

Capacity building can be seen as a change process targeted at "aligning beliefs and new or refined practices with desired growth targets" within an organization of great importance like schools (harsh, 2010). For effective performance, organizational capacity building requires deliberate and planned change. Some schools make the mistake of training staff in new skills without carrying out the necessary follow-up to make sure those skills are being utilized appropriately (Fixsen et al., 2005). Others focus on training staff without addressing issues in other areas, such as an out-dated use of facilities of infrastructural implements that does not allow teachers to implement new skills or innovative practices (Fixsen et al., 2008). Best practices for capacity building include long-term, multi-level approaches, coaching, and feedback (Barret et al., 2013).

When designing and evaluating a technical assistance initiative aimed at building capacity, four dimensions of capacity building must be considered:

- Human
- Organizational
- Structural and

- Material capacity building (Barret et al., 2013)

2.1.1.2 Types of capacity building

In the field of education, change usually involves developing four types of capacity: human, organizational, structural, and material (Harsh, 2010). Human capacity includes both the intellectual capacity (e.g., knowledge, skills) and the will (e.g., interest, patience, and persistence) to implement needed changes. Organizational capacity involves interaction, collaboration, and communication among people within the organization. Structural capacity exists independently of the people working within the organization and includes elements like policies, procedures, and practices. Material capacity includes the fiscal resources, materials, and equipment needed to meet organizational goals and implement change. The four types of capacity are interdependent, and growth in one area is dependent on growth in another.16 Consequently, while a particular capacity-building initiative might focus on one type of capacity, all four types of capacity must be "aligned and addressed" if the organization is to meet its goals for change (United State Department of Education, 2012).

2.1.1.3 Stages of capacity building

Based on a review of the literature, Harsh (2010) and her colleagues at the Appalachian Regional Comprehensive Center (ARCC) identified four stages of capacity building: Exploration, Emerging Implementation, Full Implementation and Sustainability (United State Department of Education, 2012).

- **Exploration:** In this stage, key actors identify the need for change; determine the desired capacity; and identify the knowledge, skills, structures, and processes that need to be in place to achieve the desired capacity. An important task during this stage is to

evaluate the current capacity of the school, possibly including staff skills, number of staff, infrastructures and facilities and other resources. The "capacity gap" is the difference between existing capacity and needed capacity.

- ❖ **Emerging Implementation:** This stage can be summarized in three steps:

✔ the target school's staff participate in activities;

✔ the school's staff build new knowledge, update technological or physical infrastructure, increase resources, or learn to use available resources more efficiently; and

✔ the schools staff apply their new knowledge and utilize new systems.

- ❖ **Full Implementation:** This stage involves the integration of the new information and new skills and the refining of practices based on evaluation of the changes. During this stage, evaluations of the capacity building activities can help to inform key actors on the innovation's impact and consequences. At this stage, Technical assistance providers may need to modify their technical assistance approach, or changes may need to be made to the focus of capacity building activities to fully effect desired changes.
- ❖ **Sustainability:** This final stage involves "pervasive and consistent" use of the refined skills and practices. Also, the organization demonstrates the capacity and ability to analyze and modify practices for continuous improvement and for any needed refinement of the innovation.

2.1.2 Teacher's Capacity Building

A teacher within the formal school system is described as someone who must have been professionally prepared to promote the social and academic development of the society, educating both the young and old through a patterned curriculum. Furthermore, one can say that a teacher impact knowledge, attitude, skill and a lot of information in students. Hence, this

would cover areas of cognitive, affective and psychomotor domain. From the researchers' observation, an improved teachers' capacity building could lead to improved productivity. Adebayo (2011) study revealed a great relationship between university staff capacity building and their productivity. Hence, variables such as classroom management technique, teaching methodology, teachers' personality and staff discipline can be used to build the teacher capacity.

2.1.3 Historical Perspective of Needs Assessment

A needs assessment is a systematic process for determining and addressing needs, or "gaps" between current conditions and desired conditions or "wants". The discrepancy between the current condition and wanted condition must be measured to appropriately identify the need. The need can be a desire to improve current performance or to correct a deficiency (Kizlik, 2010).

Analysis of needs assessment model used in educational research indicates the availability of a variety of models such as Discrepancy model (Sweigert and Kase 1971), system model and organization needs model (Kaufman 1972), and Marketing model (Kofler, 1982). Based on the conception of training needs as a discrepancy between an educational goal and trainees performance in relation to the goal, Borich (1980) proposed another needs assessment model named Borich Needs Assessment Model, which focuses on

- underlining competencies
- surveying the in-service teachers,
- ranking competencies and
- comparing high priority competencies with training programme content.

Roger Kaufman first developed a model for determining needs defined as a gap in results (Fulgham and Shaughnessy, 2008). This particular emphasis in results focuses on the outcomes (or ends) that result from an organization's products, processes, or inputs (the means to the ends). Kaufman argues that an actual need can only be identified independent of premature selection of a solution (wherein processes are defined as means to an end, not an end unto themselves). To conduct a quality needs assessment according to Kaufman, first determine the current results, articulate the desired results, and the distance between results is the actual need. Once a need is identified, then a solution can be selected that is targeted to closing the gap. Kaufman's model in particular identifies gaps in needs at the societal level, what Kaufman calls "Mega" planning, along with gaps at the Macro (or organizational) and Micro level (the level of individuals and small groups) (Kizlik, 2010). Organizational elements vary among the three different levels: they are outcomes at the Mega level, outputs at the Macro level, and products at the Micro level (Kizlik, 2010). A Mega level needs assessment should be conducted if the primary beneficiary of the desired results is society itself (as with the results of a clean environment or continuing profit). If the desired results are not directly societal, but are delivered to society (such as automobiles or college graduates), then a Macro level assessment should be performed. If the desired results are building blocks for larger results (such as a single sale or a passed inspection), then a Micro level needs assessment is appropriate (Kizlik, 2010).

There are three perspectives on need in a needs assessment; perceived need, expressed need and relative need.

- ✔ Perceived needs are defined by what people think about their needs, each standard changes with each respondent.

- ✔ Expressed needs are defined by the number of people who have sought help and focuses on circumstances where feelings are translated into action. A major weakness of expressed needs assumes that all people with needs seek help.
- ✔ Relative needs are concerned with equity and must consider differences in population and social pathology (Kettner et al., 2008).

Within a performance improvement framework, needs assessments play a critical role in starting the improvement process . Assessments inform future decisions; at the same time, they are informed by the results of past decisions. Needs assessments thereby link together past and future performance, guiding decisions throughout the improvement effort (Watkins et al., 2012).

However, a needs assessment is a part of planning processes, often used for improvement in individuals, education/training, organizations, or communities. It can refine and improve a product such as training or service a client receives. It can be an effective tool to clarify problems and identify appropriate interventions or solutions (Fulgham and Shaughnessy, 2008). By clearly identifying the problem, finite resources can be directed towards developing and implementing a feasible and applicable solution (Altschuld et al., 2010).

Needs assessments are only effective when they are ends-focused and provide concrete evidence that can be used to determine which of the possible means-to-the-ends are most effective and efficient for achieving the desired results (Altschuld and David, 2010).

Needs assessments can help improve the quality of policy or program decisions thus leading to improvements in performance and the accomplishment of desired results. Improving results that is, moving from current to desired performance is typically a worthwhile and valuable effort. The results of a needs assessment will guide subsequent decisions including the design,

implementation, and evaluation of projects and programs that will lead to achieving desired results (Watkins et al., 2012).

2.1.3.1 Needs chain model

A needs chain model is composed of aligned horizontal and vertical processes in which there are four different kinds of needs that describe and identify the ultimate performance goal, solutions, and what might affect these solutions. These needs include

- **Performance need:** A state of existence or level of performance required for satisfactory functioning.
- **Instrumental need:** An intervention, product, or substance that is required to obtain a satisfactory level of functioning in a particular context.
- **Conscious need:** Need that are known to those who have them.
- **Unconscious need:** Need that is unknown to those who have them.[36]

Also, needs chain model has four vertical factors that consider

- ✔ **Organizational need:** Needs that usually pertain to behavior or tangible outcomes, such as market share or sales target (Sghafloot, 2010).
- ✔ **Individual needs:** Needs that usually pertain to the individual's attitudes about the organization or themselves, such as job satisfaction.[37]
- ✔ Causes
- ✔ **Level of objectivity for all needs:** The objectivity level requires all needs to have a certain level of objectivity and to be based on deep investigation or further analysis.

The needs chain model provides tools that assist organizations in prioritizing resources and identifying areas that require improvement. Table 1 below identifies four main types of need

that must be considered, for example, for determining the organization's goals and the instrument needs with full understanding of the unconscious needs while a different factor determines the objectivity level (Shafloot, 2010).

Table 1: Needs chain model

	Instrument needs	**Unconscious needs**	**Conscious needs**	**Performance needs**
Organization level	Training/workshop	Work consistency/tasks clarity/management transparency	Learning	Market share/sales revenue
Individual level	Real applications	Job satisfaction/Recognition/Job security/Motivation	Knowledge or skills (English speaking skills)	Sales target/performing task effectively
Objectivity level	Must be high objective	Must be high objective	Must be high objective	Must be high objective

2.1.4 Teacher Capacity Building and Students' Performance

Educators globally are aware of the need for effective teaching in order to improve the students' learning achievement. The emerging empirical evidence shows that countries in the developed world are concerned with school effectiveness and teacher effectiveness and accountability for student performance is mandatory. As such the strategies employed by the teachers' to improve students' learning is important and must meet set educational and teaching standards (Darling-Hammond, 2012; Cooter, 2003; Mcber, 2000). Building teacher capacity imply investing in human capital to enable teachers' teach effectively (Kasten & McDavis (2005). Improving students' performance will enhance the acquisition of skills in cognitive, psychomotor and affective domains which, are critical for intellectual and social development. Nigeria aims to provide quality basic education to all students at all levels (early childhood development and education, primary education and secondary education) in order to meet the

provisions provided in the constitution on education and aspirations of Nigerians as stipulated in the Nigeria Vision 2030, which is the current roadmap for development (The Laws of Nigeria, 2013; RoK, 2010). The Constitution bestows responsibility to the nation and requires Nigeria to provide quality education as a basic human right while the Vision 2030 calls for enhanced access, retention, equity and quality education for students resulting in an improved quality of life. Therefore, teacher strategy implies the plan adopted by teachers to improve instructional practices both within and outside the classroom.

2.1.5 Importance of Teacher's Capacity Development to Students Performance

The empirical literature on teacher capacity building is enormous and the evidenced-based research confirms the need for improving teacher competences. Building teacher capacity enables teachers to acquire teaching skills and knowledge, share teaching experiences and collaborate with peers, gain access to career opportunities for professional development and enhances teachers' teaching quality. Capacity building forums exposes teachers to variety of professional development opportunities that includes; curriculum support and study groups and mentoring and induction programs (Jaquith, Dan, Wei, & Darling-Hammond, 2010). In addition, professional development brings in the expertise from outside the school enabling teachers to work collaboratively with peers, get opportunities for mentoring and coaching focusing on the classroom, and involves teachers in the choice of areas to develop and activities to undertake (Walter & Briggs, 2012). This evidence shows that professional development makes a difference in teacher teaching skills, increases learning quality in the classroom assisting students who could otherwise be at risk hence enhancing students' learning (Cooter, 2003; Organisation for Economic Co-operation and Development (OECD), 2009).

2.1.6 Capacity Building Strategies for Enhancing Students' Performance

The capacity building strategies for improving students' performance includes improvement of teacher's knowledge and skills, organizing seminars, workshops and conferences and mentoring and coaching of teachers and students through invitation of resource persons.

2.1.6.1 Building Teacher's Knowledge and Skills to enhance Students Performance

Researchers have made contributions with regard to the importance of teachers' pedagogical and content knowledge to student performance. Stoop (2011) has shown that effective teachers have comprehensive pedagogical and content knowledge of subject matter and the learning process that influences student achievement. In mathematics factors that have consistently been established to exert a positive influence on student gains include teacher course work, degree attainment, certification, and the pedagogical training on how to teach mathematics (Hightower et al, 2011). Jones and Moreland (2003) explains through synthesis of literature and the work of Shulman (1987) that, teachers content knowledge, pedagogical content knowledge, curricular knowledge and the knowledge of education ends and context provide distinct bodies of knowledge for teaching which every teacher must possess if effective teaching has to take place. Other research findings support the same view and shows that teachers who pursue professional development and learning results in improved student learning. In English, the effect sizes for literacy studies have yielded 0.48 and 0.89 respectively showing the contribution of teacher effects on students learning (Timperley, Wilson, Barrar & Fung, 2007). A study undertaken by Japanese International Co-operation Agency (JICA) (2007) has shown that capacity development results in building capacities of individuals, institutions and countries. According to JICA, capacity development is "the on-going process of enhancing

problem solving abilities of developing countries by taking account of all factors at the individual, organizational and societal levels".

In Nigeria since 1998, JICA has spearheaded a project dubbed, "Strengthening of Mathematics and Science in Secondary Education (SMASSE)", with the aim of strengthening mathematics and science education in Nigerian secondary schools. The approach for capacity development of teachers through SMASSE was by lesson improvement through in-service training of teachers, using cascade approach to all teacher participants in science and mathematics, building an in-service training system to foster sustainability.

SMASSE project success in Nigeria resulted in rolling out the programme to other thirty (30) Sub Saharan countries (JICA, 2007). Establishment of national in-service training centre (Centre for Mathematics, Science and Technology Education in Africa) at the Nairobi head quarters at Karen has affirmed the government of Nigeria commitment to support and ensure continuity of the SMASSE project. However, impact studies on contribution of the programme to students' performance shows that students' performance in mathematics and sciences improved.

According to Ongwel et al (2008) the in service training through SMASSE address teacher attitude, teaching methodology and subject matter mastery among other issues. The in service training had impact and it resulted to improved students' performance in mathematics and biology in secondary schools. Empirical evidence shows that any effort to enhance effective teaching has to focus on effective teacher characteristics. McBer (2000) has shown through a framework for effective teaching, that three factors within the control of the teacher influences student progress. The factors include teaching skills, professional characteristics and classroom climate. The factors predict over 30% of the variance in pupil progress (McBer, 2000; OECD,

2011). These findings were echoed by Ko, Sammons and Bakkum (2013) who noted in their value added studies on school and teacher effects on students' outcomes that, school contributes about 5-15 percent and that teachers contribute 20-40 percent of the variation in student outcomes in a given academic year.

2.1.6.2 Seminars, Workshops and Conferences and Students Performance

Evidence from empirical literature indicate that teachers who attend seminars, workshops and conferences gain experiences that help in enhancing teaching skills and results in improvement of teaching approaches in the classroom. In 2013, Nigeria held an International Conference at Nigeria Education Management Institute with the aim of bringing together education managers to share new approaches on capacity development towards achievement of EFA goals (KEMI, 2013). Seminars and workshops are organized meetings that are important in any area of expertise. Building teacher capacity through workshops has been considered weak way of promoting professional learning. Cole (2012) argues that teachers are required to update their teaching skills and professional knowledge to keep abreast to changing learners landscape and to remain effective. Teachers are hence required to prepare confident, creative and successful students. Teacher's professional learning through workshops are considered to be of short term nature, low intensity and unfocused activity (Cole, 2012). However, according to IR Global Rankings News Bulletin (2013), seminars and workshops allows participants to explore new ways of doing things, create value, adopt best practices, trends, technology and build networks. This is considered handy in efforts aimed at improving teaching skills and students' performance.

2.1.6.3 Mentorship, Coaching and Students Performance

Realizing success in building teachers' capacity requires identifying resource persons to be involved in mentoring and coaching teachers in wide range of teaching approaches that yield results. Resource persons are people who have the expertise in terms of knowledge, competence and skills and capable of providing coaching and guidance pertaining to the area that needs improvement. Lofthouse, Leat, and Towler (2010), coaching is a teacher development strategy aimed at assisting teachers to gain knowledge, skills and learning opportunities that enhances their development. During coaching, teachers are able to share ideas, understand the linkages between their values, knowledge and practice. In addition, teachers become metacognitive in their work, reflective, exploratory and articulate when handling students.

According to Catholic Relief Services of India (2009), for successful capacity-building program, resource persons need to be developed internally by the school. School managers', school principals and teachers need to recognize the area of performance and develop the strategies to counter non-performance. Mentoring is a structured and sustained way of supporting new teachers to fit into teaching.

In Nigeria, education reports and empirical evidence shows that teachers' faces some challenges that impact on students' learning and consequently, students' performance. The issues include; capacity constraints by teachers in delivery of subjects such as agricultural science; teacher education curricular used for teacher training is not based on the training needs assessment (TNA).

In addition, limited professional development programs, limited funding and resources for teacher education programmes contribute to limited opportunities for teachers to improve on

their teaching skills and knowledge. In addition, need for increase accountability and improved education access and quality is still an uphill task to some teachers (Rok, 2005, 2010 & 2015; Kafu, 2011; Yara and Otieno, 2010).

In order to address teacher issues, Nigeria has taken positive steps in addressing teachers' capacity development gaps by establishing institutions to provide capacity-building programmes for teachers at the Nigeria Education Management Institute.

2.2 Theoretical Framework

The theories reviewed in this study are Constructivist theory, Needs Assessment Theory, and Theory of Vocational Education

2.2.1 Constructivist theory

Constructivist theory put forward by Lev Vygotsky (1896-1934) guided the study. Constructivism theory is one of the learning theories that state that culture influence cognitive progress while knowledge leads to further cognitive development. Vygotsky maintained that every function in the child's cultural development appears on the social level and later on the individual level. The theory further states that knowledge is the internalization of social activity and that mediation is key to constructivism. The implication of the theory is that teachers as mediators and facilitators of learning influences child's cognitive development, which results in improvement of student learning and social interaction. Teachers are encouraged to engage students in learning by practicing effective instruction and provision of challenging opportunities while also applying the cooperative learning approaches (Lui, 2012; Teachnology, 2013; Education theory, 2013). Teachers are thus encouraged to improve their teaching skills,

knowledge and attitudes to practice effective teaching to be able to keep abreast to changing learner's needs.

2.2.2 Needs Assessment Theory

A theory could be said to consist of concepts, constructs, principles and propositions that serve as a body of knowledge. Hornby (2010) defines theory as a formal set of ideas that is intended to explain why something happens or exists. According to Kaufman (1985), "needs assessment theory involves identifying, justifying gaps in results, and placing the gaps in prioritized order for attention. The function of theories is to guide practice and lead to application of knowledge to solve real-world problems. The theoretical framework upon which this study is based is the theory-based needs assessment and theory of vocational education.

Davidson (2004) asserted that needs assessment can be used for two (2) main purposes:

- ❖ Program / intervention / product design (designing something that will address the true needs of the target population)
- ❖ Evaluation of an existing program / product /intervention (identifying baseline and outcome criteria – the needs that are / should be met).

Davidson posited a 3-step approach to theory based needs assessment:

1) Identify the primary presenting need(s) in an existing population

2) Identify the main causes underlying those needs

a) This process applies on existing theory, research and local knowledge

b) The end product is a needs-based program theory that can be used for evaluation

3) Determine the nature and extent of the presenting needs and their causes (i.e., baseline/outcome data)

The theory based needs assessment, 3-step approach best related to the capacity building needed by teachers of Agricultural science. Needs assessment is about change, and it is essential to know what to change from as well as what to change to. Needs assessment is implored in this study to assess the needs of teachers in Agricultural science, to see whether the need actually exists; whether it is, in fact, a problem; and if so, how it might best be dealt with.

2.2.3 Theory of Vocational Education

Prosser and Quigley (1949) propounded theories of vocational education which stated that " Skill training will be efficient in proportion as the environment in which the learner is trained is a replica of the real environment in which he/she must subsequently work". This denotes that it will be deceitful to training students using manual drawing tools only, while the actual job required the use of modern tools. Training in Agricultural science using obsolete tools will certainly produce graduates who will not be relevant on the job unless given a new training to meet the desire of their employers.

The two theories are relevant to this study because they lay emphases on human resources development through educational activities for skills utilization. Without student's involvement in Agricultural science through competent teacher, they will not acquire skills for self-development and socio-economic capacitation will be lacking. The relevance of the needs assessment theory and vocational education theories to this study is essentially related to the need for deliberate effort to capacitate students in Agricultural science with the requisite opportunities to be skill-based in individual development contribution to Nation advancement.

2.3 Empirical Framework

In the study carried out by Lawal et al. (2013) to assess the Competency Capacity Building Needs of Agricultural Science teachers in Ondo State with four (4) research questions guiding the study which adopted a descriptive research method or design. The researcher collected his data through the use of Interview Schedule (Questionnaire) which comprised of two scales namely scales of needed and performance containing 33 items and a population of 413 respondents made up of 367 teachers of agricultural science in senior schools and 46 lecturers in tertiary institutions. Though there was no sampling. The questionnaires were validated by 3 experts from the department of Vocational Teacher Education (Agricultural unit) and the Reliability Co-efficient was tested with the use of Cronbanch Alpha Reliability which gave a reliability co-efficient of 0.87. the returned questionnaires were analyzed using weighted mean and improvement need index (INI). However, based on the data analyzed, it was discovered that teachers of agricultural science needed capacity building in all the competencny items used by the researcher in planning and organizing school farms; the study further reviewed that these teachers needed capacity building in implementing school farms practicals, in co-ordinating school farm practicals and finally that teahcers of agricultural science needed capacity building in evaluating school farm practicals. The study concludes that by recommending that these capacity building competencies of these teachers of agricultural science should be utilized to organize retraining programmes in form of seminars, workshops or long vacation courses for teachers of agricultural science on how to effectively use the school farm to enhance skill acquisition among secondary school students; all secondary schools in the country should be encouraged to establish a well-managed school farm; a unit should be established at the State Ministry of Education to monitor, co-ordinate and evaluate the activities of school farm in all

state of the federation and all students of Junior Secondary School 1-3 and those offering agricultural science in Senior Secondary School 1-3 should be motivated to have individual farm work/pilot, and should be frequently evaluated by the teacher of agriculture.

Adebayo and Sagaya (2015) titled Teachers' Capacity Building and Students' Academic Performance among Public Junior Secondary Schools in Kwara State with the objectives to find out how teachers' capacity building programme that influence students' academic performance, where there is need for the government to address in other to improve teachers so as to bring about better academic performance. Also to look at the correlation of various capacity building programmes and students' academic performance, variables like teacher's personality an discipline, classroom management, teacher's method of teaching, are to be examined as the content of the various capacity building programmes. The study adopted five (5) hypothese for the study. The population for the study consists of (57) fifty seven Public Junior Secondary Schools. Simple random sampling technique was used to select 28 JSS and purposive technique to select 28 and 448 teachers. The instruments used were Teachers' Capacity Building Questionnaire (TCBQ) and (JSRP) JSCE result profoma. The instrument was attested to face and content validity, The reliability of instrument was established by employing test re-test method. A reliability co-efficient of 0.75 was obtained. Five research hypotheses were postulated and tested at 0.05 level of significance.

The study revealed that there is a significant relationship between teacher capacity building and students' academic performance and a significant relationship was found between teachers' classroom management, teaching methodology, personality and students' academic performance. Significant relationship was equally revealed between teachers' discipline and students' academic performance. Some of the recommendations made were that teachers

should be periodically evaluated by the principals in order to know where there is need to re-train their teachers. Also, teachers need to partake in various training in other to improve their skill on classroom management, teaching methodology, personality and staff discipline which will thereby enhance better students' academic performance.

Also a study by Annah et al. (2015) titled Relationship between Teacher Capacity Building Strategy and Students' Performance in Public Secondary Schools in Nandi County, Kenya with the purpose of investigating the teachers' capacity building strategies that influence students' performance in public secondary schools in Nandi County. The main objective of the study was to examine how teachers' capacity building strategies enhance students' performance in public secondary schools in Nandi County. The study used descriptive survey design. Stratified and simple random sampling techniques were used for the study. The study populations were the principals, teachers and students. The researcher used 30% as population sample size for the public secondary schools, 30% as population sample size for principals, 10% for teachers and 10% for the students. The target sample was (30) public secondary schools, (30) school principals, (85) teachers and (136) students. The findings of the study showed that Nandi County has qualified and well trained teachers. However, in some instances the findings showed teachers' needed refresher-training courses to improve on their teaching performance. The findings showed that students continue to perform poorly in academics in some public secondary schools. It was further found out that contribution of teacher capacity development influences students' performance to a greater extent. The conclusion of the study reinforces the existing studies that have shown that quality of education depend on effective teaching skills, knowledge and attitudes acquired by teachers' through continuous in-service education and training and for which teachers employ at a given time leading to improved students'

performance. Similarly, teachers' capacity development should be strengthen in order to enhance teacher professional growth, and to realized quality students' outcome in academic achievement. School principals should ensure that teachers' are held accountable for student learning by putting in place measures that ensures education offered to learners is of high quality. However, students who are not endowed in academics should be guided to discover their talents early, nurture and pursue careers of their choice. Further research on the best approach of addressing poor students' performance in academic achievement in secondary schools need to be undertaken**.** From the empirical studies reviewed by the researchers failed to indicate the general capacity building needs of teachers teaching agricultural science in senior secondary schools and that is the observed gap in literature of which this research work is set to fill.

2.4 Summary of literature reviewed

Literature was reviewed was based classified into conceptual, theoretical and empirical framework. In the conceptual framework, concepts of capacity building; its processes, types and stages; concept of teacher's capacity building, concept of historical perspective of needs assessment; concept and relationship between teachers' capacity building and students' performance; importance of teachers' capacity development to students' performance and capacity building strategies for enhancing students' performance. The theoretical framework explained some theories of capacity building and needs assessment while on the empirical framework, some relevant works of different scholars on the same subject matter were reviewed relating to this topic. Hence, the review helped the researcher to embark on the study to determine the motivational strategies for engaging undergraduates of agricultural education

CHAPTER THREE

METHODOLOGY

This chapter presented the procedures followed in carrying out this study. The procedure focused on design of the study, area of the study, population of the study, sample and sampling technique, instrument for data collection, validation of the instrument, reliability of the instrument, method of data collection and method of data analysis.

3.1 Design of the Study

The study made use of descriptive survey research design. Descriptive survey research design, according to Nworgu (2006) is one in which a group of people or items is studied by collecting and analyzing data from only a few people or items considered to be representative of the entire group.

The design is appropriate for this study since it used questionnaire for collecting data from the respondents for determining capacity building needs of Agricultural Science Teachers in Teaching Agricultural Science in Secondary schools in Ikwuano.

3.2 Area of the Study

The study was carried out in Ikwuano LGA, Abia State, Nigeria. It has an area of 281km^2 and a population of 137,993 at the 2006 census, it is made up of 52 villages and communities, it is bounded to the north by Ini LGA, to the west by Umuahia north LGA, the presence of secondary schools and agricultural science teachers makes this area suitable for the study.

3.3 Population of the Study

The population of this study was 64 agricultural science teachers comprising of 40 male agricultural science teachers and 24 female agricultural science teachers in the secondary schools in Ikwuano LGA (Education Department, Ikwuano Local Government Headquarters, 2016).

3.4 Sample and Sampling Technique

The sample for this study is 64 which was the population of the respondents. There was no sampling because of the manageable size of the population. Therefore, the entire population of the respondents was used in the study.

3.5 Instrument for Data Collection

The instrument for data collection was a structured questionnaire titled: Agricultural Science Teachers Capacity Building Questionnaire (ASTCQ) developed from literature reviewed. The ASTCQ had 42 items that were grouped into two sections A and B. Section A was used to collect information on the personal data of the respondents while section B is divided into 5 parts. Part one focuses on planning of agricultural information, part two elicited information on implementing agricultural instruction, part three collected information on evaluation of agricultural instruction, part four gathered information on resource utilization, part five sought information on school farm management.

The importance category had four-point response options as follows:

Highly Important (HI)	=	4
Averagely Important (AI)	=	3
Lowly Important (LI)	=	2
Not Important (NI)	=	1

The performance category had four-point response options as follows.

High Performance (HP)	=	4
Average Performance (HP)	=	3
Low Performance (LP)	=	2
No Performance (NP)	=	1

3.6 Validation of the Instrument

The instrument was subjected to face validation. Face validation of the ASTCQ was carried out by three experts: two from Department of agricultural science education and one from Department of measurement and evaluation, Michael Okpara University of Agricultural Umudike. Each of the experts was given a copy of the questionnaire and requested to read the questionnaire items thoroughly for correcting any wrongly spelt words, ambiguous or unclear statement and wrong information on the questionnaire items. They were also requested to add any missing information or practices that were needed but not included. The corrections and suggestions of the experts were used to improve the questionnaire for final production.

3.7 Reliability of the Instrument

Twenty copies of the questionnaire were administered on 20 teachers of agriculture outside the area of the study. The data collected were analyzed using Cronbach Alpha reliability method to determine the internal consistence of the questionnaire items. The Alpha reliability of 0.83 was obtained which indicates that the questionnaire item was reliable.

3.8 Method of Data Collection

The instrument will be administered by the researcher and two assistants. The assistants assisted the researcher in both administration and collection of the questionnaire. A total of 64 copies of the questionnaire was administered and retrieved.

3.9 Method of Data Analysis

The data collected from the respondents were analyzed using weighted mean and Improvement Importance performance Index (IIPI) was used to answer the research questions. To determine the importance-performance gap of teachers of Agricultural science the following was adopted;

a) The weighted mean of the importance category (X_i) was calculated for each item.

b) The weighted mean of the performance category (X_p) was calculated for each item.

c) The Need Gap value (NG) was determined by finding the difference between the two weighted means of needed and performance categories for each item. That is, PG value = $X_i - X_p$ where:

1) NG value was positive (+), it indicated that capacity building was needed because the level at which the agricultural science teacher could performed each item was lower than the level at which it was important.

2) NG value was negative (-), it indicated that capacity building was not needed because the level at which the agricultural science teacher could performed each time was greater than the level at which it was needed.

3) NG value was zero (0), it indicated that capacity building was not needed because the level at which the agricultural science teacher could performed each item was equal to the level at which the item was needed (Olaitan and Ndomi 2000).

CHAPTER FOUR

ANALYSIS AND PRESENTATION OF RESULT

4.1 Results

In this chapter, data for the study were analyzed and presented based on the research questions that guided the study.

4.1.1 Capacity building needs of teachers in planning of agricultural instruction

Research Question one:

What are the capacity building needs of teachers in planning of agricultural instruction?

The data that answered the research questions is represented in Table 4.1.

Table 4.1: **Need Gap Analysis of the Mean Ratings of the Responses of Agricultural Science Teachers on Capacity Building Needs of Teachers in Planning of Agricultural Instruction. N = 64**

S/N	Item Statement	$\overline{X_I}$	$\overline{X_P}$	NG $\overline{X_I} - \overline{X_P}$	Remark
1.	Formulate specific objectives for agricultural instruction	3.69	2.69	1.00	CBN
2.	Decide on how the objectives will be categorized	3.50	2.63	0.87	CBN
3.	Set targets on how the agricultural instruction will be actualized	3.63	2.56	1.07	CBN
4.	Identify materials to be used in the instruction	3.69	2.68	1.01	CBN
5.	Select relevant materials for the instruction	3.31	2.44	0.87	CBN
6.	Make budget for items/tools	3.56	2.19	1.37	CBN
7.	Identification of sources of obtaining finance for its actualization	3.19	2.38	0.81	CBN
8.	Organize these agricultural instructions through the use of school calendar	3.31	2.38	0.93	CBN
9.	Determine the method of instruction	3.06	2.56	0.50	CBN
10.	Assign duties/specific tasks to students	3.50	2.62	0.88	CBN
11.	Determine evaluation strategies	3.44	2.31	1.13	CBN

CBN- Capacity Building Needed, X_I – Mean of level of Importance, X_P – Mean of level of Performance, NG –Need Gap, N – Number of Respondents

Data in Table 4.1 revealed that the 11 items had their need gap values ranged from 0.50 to 1.37 and were positive. This indicated that the teachers of Agricultural science in secondary schools in Ikwuano LGA needed capacity building (CBN) on all the 11 Items on planning of agricultural instruction.

4.1.2 Capacity Building Needs of Secondary School Teachers in Implementing Agricultural Instruction

Research Question two:

What are the capacity building needs of secondary school teachers in implementing agricultural instruction?

The data that answered the research questions is represented in Table 4.2.

Table 4.2: **Need Gap Analysis of the Mean Ratings of the Responses of Agricultural Science Teachers on Capacity Building Needs of Teachers in Implementing Agricultural Instruction. N = 64**

S/N	Item Statement	$\overline{X}_I$	$\overline{X}_P$	NG $\overline{X}_I - \overline{X}_P$	Remark
1.	Strict adherence to formulated agricultural instruction	3.62	2.50	1.12	CBN
2.	Arrange materials	3.56	2.81	0.75	CBN
3.	Layout agricultural instruction plans	3.69	2.69	1.00	CBN
4.	Review agricultural instruction periodically	3.25	2.38	0.87	CBN
5.	Preparation of class/school work	3.31	2.75	0.56	CBN
6.	Set up committee to monitor the agricultural instruction	3.13	2.19	0.94	CBN
7.	Follow approved agricultural procedures	3.06	1.95	1.11	CBN

CBN- Capacity Building Needed, X_I – Mean of level of Importance, X_P – Mean of level of Performance, NG –Need Gap, N – Number of Respondents.

Data in Table 4.2 revealed that the 7 items had their need gap values ranged from 0.56 to 1.12 and were positive. This indicated that the teachers of Agricultural science in secondary schools in Ikwuano LGA needed capacity building (CBN) on all the 7 Items on implementing of agricultural instruction.

4.1.3 Capacity building needs of secondary school teachers in evaluation of agricultural instruction

Research Question three: What are the capacity building needs of secondary school teachers in evaluation of agricultural instruction?

The data that answered the research questions is represented in Table 4.3.

Table 4.3: **Need Gap Analysis of the Mean Ratings of the Responses of Agricultural Science Teachers on Capacity Building Needs of Teachers in evaluation of Agricultural Instruction. N = 64**

S/N	Item Statement	$\overline{X_I}$	$\overline{X_P}$	NG $\overline{X_I} - \overline{X_P}$	Remark
1.	Identify key points to be evaluated	3.56	2.63	0.93	CBN
2.	Assess students' understanding of the instruction	3.88	2.38	1.50	CBN
3.	Assess students' mastery of competency	3.56	2.56	1.00	CBN
4.	Identify areas of improvement	3.38	1.37	1.01	CBN
5.	Determine quality of output	3.38	2.46	0.92	CBN
6.	Determine progressive growth/assimilation of programme	3.50	2.45	1.05	CBN
7.	Keep performance record	3.45	2.31	1.14	CBN
8.	Disseminate knowledge of result	3.56	2.44	1.12	CBN

CBN- Capacity Building Needed, X_I – Mean of level of Importance, X_P – Mean of level of Performance, NG –Need Gap, N – Number of Respondents.

Data in Table 4.3 revealed that the 8 items had their need gap values ranged from 0.92 to 1.50 and were positive. This indicated that the teachers of Agricultural science in secondary schools in Ikwuano LGA needed capacity building (CBN) on all the 8 Items on evaluation of agricultural instruction.

4.1.4 Capacity building needs of secondary school teachers in resource utilization

Research Question four: What are the capacity building needs of secondary school teachers in resource utilization?

The data that answered the research questions is represented in Table 4.4.

Table 4.4: **Need Gap Analysis of the Mean Ratings of the Responses of Agricultural Science Teachers on Capacity Building Needs of Teachers in Resource Utilization. N = 64**

S/N	Item Statement	$\overline{X_I}$	$\overline{X_P}$	NG $\overline{X_I} - \overline{X_P}$	Remark
1.	Decide an appropriate tools/implements for the instruction	3.75	2.69	1.06	CBN
2.	Set out panels/committee to analyze the effects of resources	3.31	2.31	1.00	CBN
3.	Get adequate supply and utilization of resources	3.63	2.06	1.57	CBN
4.	Guide the students on the use of materials and implements	3.69	2.25	1.44	CBN

CBN- Capacity Building Needed, X_I – Mean of level of Importance, X_P – Mean of level of Performance, NG –Need Gap, N – Number of Respondents.

Data in Table 4.4 revealed that the 4 items had their need gap values ranged from 1.00 to 1.57 and were positive. This indicated that the teachers of Agricultural science in secondary schools in Ikwuano LGA needed capacity building (CBN) on all the 4 Items on resource utilization.

4.1.5 Capacity building needs of secondary school teachers in school farm management

Research Question five:

What are the capacity building needs of secondary school teachers in school farm management?

The data that answered the research questions is represented in Table 4.5.

Table 4.5: **Need Gap Analysis of the Mean Ratings of the Responses of Agricultural Science Teachers on Capacity Building Needs of Teachers in School Farm management. N = 64**

S/N	Item Statement	$\overline{X_I}$	$\overline{X_P}$	NG $\overline{X_I} - \overline{X_P}$	Remark
1.	Identify practical activity	3.75	2.88	0.88	CBN
2.	Identify material resources for implementation of practical work	3.44	2.45	0.99	CBN
3.	Select relevant materials for each stage of practical work	3.50	2.88	1.12	CBN
4.	Organize students' into groups for practical activities	3.50	3.56	-0.06	CBNN
5.	Assign responsibility/work activities to each group	3.75	3.13	0.62	CBN
6.	Direct students practical activities	3.75	2.56	1.19	CBN
7.	Record work activity	3.00	2.06	0.94	CBN
8.	Assess students' performance practical	3.69	2.28	1.41	CBN
9.	Provide knowledge of results	3.50	2.06	1.44	CBN
10.	Decide on maintenance culture	3.38	2.56	0.82	CBN
11.	Provide knowledge of skills	3.45	2.44	1.01	CBN
12.	Report poor performance of the skill by the student	3.81	2.44	1.37	CBN

CBN- Capacity Building Needed, CBNN - Capacity Building Not Needed X_I – Mean of level of Importance, X_P – Mean of level of Performance, NG –Need Gap, N – Number of Respondents.

Data in Table 4.5 showed that the need-performance gap values of 11out of 12 items ranged from 0.62 to 1.44 and were positive. This indicated that the teachers of agricultural science needed capacity building in the 11 items, 1 out of the 12 items had need-performance gap value of -0.06 and was negative, indicating that the lecturers do not need capacity building on the items. Generally, the teachers of agricultural science needed capacity building on school farm management in Ikwuano LGA.

4.2 Summary of findings of the Study

The following findings emerged from the study based on the data collected and analyzed:

4.2.1 Capacity Building Needs of Teachers in Planning of Agricultural Instruction

It was found out that secondary school teachers needed capacity building in the 11 items on the planning of agricultural instruction. The eleven items are;

1. Formulate specific objectives for agricultural instruction
2. Decide on how the objectives will be categorized
3. Set targets on how the agricultural instruction will be actualized
4. Identify materials to be used in the instruction
5. Select relevant materials for the instruction
6. Make budget for items/tools
7. Identification of sources of obtaining finance for its actualization
8. Organize these agricultural instructions through the use of school calendar
9. Determine the method of instruction
10. Assign duties/specific tasks to students
11. Determine evaluation strategies

4.2.2 Capacity Building Needs of Secondary School Teachers in Implementing Agricultural Instruction.

It was found out that secondary school teachers needed capacity building in the 7 items on implementing of agricultural instruction. The seven items are;

1. Strict adherence to formulated agricultural instruction
2. Arrange materials
3. Layout agricultural instruction plans
4. Review agricultural instruction periodically
5. Preparation of class/school work
6. Set up committee to monitor the agricultural instruction
7. Follow approved agricultural procedures

4.2.3 Capacity Building Needs of Secondary School Teachers in Evaluation of Agricultural Instruction

It was found out that secondary school teachers needed capacity building in the 8 items on Evaluation of Agricultural Instruction. The eight items are;

1. Identify key points to be evaluated
2. Assess students' understanding of the instruction
3. Assess students' mastery of competency
4. Identify areas of improvement
5. Determine quality of output
6. Determine progressive growth/assimilation of programme
7. Keep performance record

8. Disseminate knowledge of result

4.2.4 Capacity Building Needs of Secondary School Teachers in Resource Utilization

It was found out that secondary school teachers needed capacity building in the 4 items on resource utilization. The four items are;

1. Decide an appropriate tools/implements for the instruction
2. Set out panels/committee to analyze the effects of resources
3. Get adequate supply and utilization of resources
4. Guide the students on the use of materials and implements

4.2.5 Capacity Building Needs of Secondary School Teachers in School Farm Management

It was found out that secondary school teachers needed capacity building in 11 items on resource utilization. The eleven items are;

1. Identify practical activity
2. Identify material resources for implementation of practical work
3. Select relevant materials for each stage of practical work
4. Assign responsibility/work activities to each group
5. Direct students practical activities
6. Record work activity
7. Assess students' performance practical
8. Provide knowledge of results
9. Decide on maintenance culture
10. Provide knowledge of skills

11. Report poor performance of the skill by the student

It was found out that secondary school teachers did not need capacity building in one item on resource utilization. The item is;

1. Organize students' into groups for practical activities

4.3 Discussion of Findings

The findings of the study on research questions answered and hypotheses tested are discussed under the following sub-headings:

1. Capacity building needs of teachers in planning of agricultural instruction
2. Capacity building needs of secondary school teachers in implementing agricultural instruction.
3. Capacity building needs of secondary school teachers in evaluation of agricultural instruction
4. Capacity building needs of secondary school teachers in resource utilization
5. Capacity building needs of secondary school teachers in school farm management

4.3.1 Capacity Building Needs of Teachers in Planning of Agricultural Instruction

The findings of this study in table 1 showed that agricultural science teachers needed capacity building on formulation of specific objectives for agricultural instruction, decision on how the objectives will be categorized, set targets on how the agricultural instruction will be actualized, identify materials to be used in the instruction, select relevant materials for the instruction**,** make budget for items/tools among others.

The findings of this study is conformity with findings of Robert and Dyer (2004) which revealed that the strategic planning (program improvement needs) of science instruction for

science teachers is required because the teachers ability to plan for the next lesson, develop effective ways of communication and evaluate the effectiveness of the whole teaching or program is an act of professionalism. Lawal, (1995) asserted that at the planning stages the teacher has to give a well informed consideration to the content and goals of the curriculum and the needs, interests and abilities of the learners by choosing or improvising relevant teaching aids, formulates appropriate objectives, adopts suitable methods and techniques of presentation and evaluation, and finally writes out a detailed lesson-plan.

The study of Kamisah, Lilia & Subaham (2006) asserted that the planning of science instruction creates a need for teachers to make their lessons to be interesting and attractive especially for students with low cognitive levels.

This finding is in line with study of Olaitan, Alaribe &Nwobu (2009) that the teachers of agricultural science exhibited low performance capacity in the general curriculum content planning of agriculture programme of Colleges of Education. The finding indicated that they required capacity needs in order to be more effective in teaching agricultural science in Junior Secondary Schools. The findings of the study in table 1 also showed that science teachers only possessed the capacity building needs for planning science instruction at the average level, which would have embraced effective dissemination of science concepts to the student in senior secondary schools. This is not very commendable enough as to no meaningful teaching can take place in the absence of effective planning of science instruction (Agbi & Mbuk, 1996). Thereby, this capacity is necessary for continuous improvement on the School-based programmes.

4.3.2 Capacity Building Needs of Secondary School Teachers in Implementing Agricultural Instruction

The findings of this study in table 2 showed that agricultural science teachers needed capacity building on strict adherence to formulated agricultural instruction, arrangement of materials, layout of agricultural instruction plan, review agricultural instruction periodically, preparation of class/school work among others. Findings of this study from table 2 also showed that science teachers indicated average or low capacity for the Implementation of science instruction. Perhaps, it should be stressed further that the level at which this capacity is exhibited determines to a great extent the success or failure of science education curriculum implementation (Agbi, 1997). The findings on implementing agricultural instruction were in consonance with the findings of Kamisah, Lilia & Subaham (2006) they reported that science teachers also need regular support in implementing their science instruction as well as equipping themselves with the necessary pedagogical knowledge and skills. The finding is also in agreement with the study of Ellah (2007) where it was found out that the NCE graduate teachers of science acquired low competence in the instructional content areas of science education while in training and therefore, the NCE graduate teachers of science improvement needs in some content knowledge and teaching skills for enhancing their effectiveness in the field.

4.3.3 Capacity Building Needs of Secondary School Teachers in Evaluation of Agricultural Instruction

The findings of this study in table 3 showed that agricultural science teachers needed capacity building on identification of key points to be evaluated, assessment of students understanding of the instruction, identify areas of improvement, keep information record among others.

This is quite in line also with research findings of Maduabum (1992) & Ivowi (1997a) that science teachers do not effectively evaluate learning outcomes using comprehensive assessment tools.

The researchers found out that teachers do not show adequate capacity building in evaluation of agricultural instruction, which is a matter of deep concern. The findings indicate that, a good teacher should not only be able to transmit knowledge and skills effectively and efficiently but he should also be able to inspire the learners to a greater height of achievement through meaningful use of evaluation techniques. This is necessary because the agricultural science teacher needs to arouse the students' interests in the subjects, keep the teachers informed of areas of difficulties that need more remedial work and subsequently the rate of progress towards the set objectives is enhanced. The teacher also needs to be aware of areas that pose as difficult tot the learner to be able to help the student for mastery of competence.

4.3.4 Capacity Building Needs of Secondary School Teachers in Resource Utilization

The findings of this study in table 4 showed that agricultural science teachers needed capacity building on an decide appropriate tools/implements for the instruction, set out panels/committee to analyze the effects of resources, get adequate supply and utilization of resources, guide the students on the use of materials and implements among others. Effective use of instructional resources in the teaching of agricultural science not only helps to concretize abstract concepts but also helps to arouse and sustain students' interest in the materials being learnt.

The study of Kamisah et al (2006) observed that the science teachers' awareness of the importance of varying their pedagogical approaches and how to constructively maneuver their lessons with the support of appropriate instructional materials and other teaching aids that are

also contributing to such pattern of effective teaching. The findings also give credence to the view of Ogbuanya (1996) where it was found out that teachers indicated the needs for in-service training based on the difference between the skills they possessed and those they are required for effective performance. The above observation indicates that capacity building programmes should be organized for the teachers in the areas of teaching, using appropriate instructional resources.

4.3.5 Capacity Building Needs of Secondary School Teachers in School Farm Management

The findings of this study in table 5 showed that agricultural science teachers needed capacity building on identification of practical activity, identification of material resources for implementation of practical work, select relevant materials for each stage of practical work, assign responsibility/work activities to each group, direct students practical activities, record work activity among others. The interaction of the researchers with the teachers of agricultural science revealed that some secondary schools did not have a school farm. Also, most of the teachers of agricultural science laid more emphasis on the theoretical aspect of agricultural science and deprived the students of the practical knowledge that is needed for skill acquisition in agriculture. From the area of the study it was revealed that the teachers of agricultural science do not need capacity building in organizing student in to group for practical activities.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presented the summary of the statement of problem, purpose of the study, procedure used for the study, major findings of the study, conclusion, educational implications, recommendations and suggestions for further study.

5.1 Restatement of Problem

Education is a basic and fundamental right, means of social mobility and socio-economic development. Despite various efforts by key educational stakeholders to improve students' performance through provision of resources for school improvement and provision of subsidized public secondary school tuition to improve access to education and availability of qualified teachers; the trend on students' performance in some public secondary schools is inconsistent and remains poor. In addition, questions have been raised on teacher competences and whether teachers have the capacity to ensure students' perform highly in academic achievement in secondary schools.

However, lack of the capacity building needs of agricultural science teachers teaching agriculture at senior secondary schools have affected the performances of these students sitting for agriculture at internal and external examinations and also has affected the technical/vocational/skill acquisition of students' thereby causing the teaming youths to lack interest in the practice of agriculture and other agricultural related activities. However, in Ikwuano Local Government Area of Abia State, teachers of agricultural science has lacked the required competent capacity building skills for inculcating norms, ethics and knowledge of agriculture. This is evident due to the poor performance of student and lock of interest among

students both in practical and theoretical aspects of agriculture. Thus, Umar and Adedokun (2006) noted that agricultural science teachers need to update their professional capacity development, commitment, creativity, mechanical skills, resourcefulness and initiative for carrying out agricultural science instruction, therefore, the teacher of agricultural science need capacity building in teaching of agricultural science in secondary school. Specifically, the study sought to:

a) Ascertain the capacity building needs of teachers in planning of agricultural instructions
b) Determine the capacity building needs of secondary school teachers in implementing agricultural instruction
c) Find out the capacity buildings of teachers of agriculture in evaluation of instruction
d) Determine the capacity building needs of teachers of agriculture in resources.
e) Determine the capacity building needs of teachers of in school farm management.

5.2 Summary of Procedure Used

The study adopted descriptive survey research design for data collection. The study was carried out in Ikwuano LGA, Abia state. The population of the study was 64 agricultural science teachers. There was no sampling due to the manageable size of the population; therefore, the entire population was involved in the study. Relevant literature was reviewed to generate questionnaire items used for the study. The questionnaire was divided into two parts A and B. Part A was used to collect information on the personal data of the respondents while part B which had importance and performance components was used to collect information on capacity building need of teachers of agriculture. Three experts validated the instrument. Cronbach alpha reliability method was used to determine the internal consistency of the

questionnaire items of the two components. This yielded reliability coefficients of 0.83 for the questionnaire. The data for the study was collected by administering 64 copies of the questionnaire to the respondents through the assistance of two research assistants. 64 copies of the questionnaire were retrieved and analyzed using Need Gap (NG) to answer research question

5.3 Major Findings of the Study

It was found out that:

1. Teachers of agricultural science in secondary school needed capacity building in the 11 items listed as capacity building needs of teachers in planning of agricultural instruction.
2. Teachers of agricultural science in secondary school needed capacity building in the 7 items listed as capacity building needs of secondary school teachers in implementing agricultural instruction.
3. Teachers of agricultural science in secondary school needed capacity building in the 8 items listed as capacity building needs of secondary school teachers in evaluation of agricultural instruction.
4. Teachers of agricultural science in secondary school needed capacity building in the 4 items listed as capacity building needs of secondary school teachers in resource utilization.
5. Teachers of agricultural science in secondary school needed capacity building in the 11 items listed as capacity building needs of secondary school teachers in school farm management.

6. Teachers of agricultural science in secondary school did not need capacity building in one of the items listed as capacity building needs of secondary school teachers in school farm management.

5.4 Conclusion

Agricultural science teachers needed capacity building on all items on planning of agricultural instruction, implementing of agricultural instruction, evaluation of agricultural instruction, resource utilization and school farm management. This study provides meaningful empirical evidences of effective in-services programmes in the process of upgrading science teacher's professionalism in Nigeria. The data obtained in this study provide information especially for those involved in designing and implementing science curriculum so that all the programmes implemented will be glared towards the immediate needs of the agricultural science teachers.

In conclusion, it is suitable to indicate that the Nigerian Senior Secondary School Science Teachers, as evidenced in this study embark in keeping the best interest of their students and maintaining that lifelong learning as at the centre of teacher development.

5.5 Educational Implication of the Study

The findings of this study have some educational implication students of senior secondary schools, teachers of agriculture, school administrators, curriculum planners and parents.

If the findings of this study on capacity building needs of agricultural science teachers in teaching agricultural science in secondary schools are made available to the students of senior secondary schools and implemented by them it will assist the students to acquire great skills that will make them to become competent in the all branches of agriculture both in school and after graduation,

If the findings of this study on capacity building needs of agricultural science teachers in teaching agricultural science in secondary schools are made available to the teachers of agriculture and implemented by them, it would help enhance teachers' teaching effectiveness and productivity. Also their skills will be improved and new knowledge will be learnt. They will find the job more interesting and derive more pleasure and satisfaction from it, also, the agricultural syllabus added by the curriculum planners will give the teachers easy guideline on how to teach effectively for the better understanding of the students

If the findings of this study capacity building needs of agricultural science teachers in teaching agricultural science in secondary schools are made available to the school administrators and implemented by them, the findings of the study would help school administrators in planning, reviewing and implementing capacity building needs of agricultural teachers when enrolling for employment.

If the findings of this study on capacity building needs of agricultural science teachers in teaching agricultural science in secondary schools are made available to the curriculum planners and implemented by them, it will help the curriculum planners to be acquainted with the capacity building needs of teachers of agriculture for all round agricultural activities both theoretically and practically.

If the findings of this study on capacity building needs of agricultural science teachers in teaching agricultural science in secondary schools are made available to parents and implemented by them, their wards will no longer search for long period of time before being employed, thereby creating relief and improving economic status for the home.

5.6 Limitations of the Study

The following limitations were encountered by the researcher;

1. Teachers hesitated in providing information as they claimed that they were too busy.
2. Senior secondary schools in ikwuano LGA are located in the villages which made transportation difficult to access
3. The researcher also faced limited fund as a problem in gathering all the needed information

5.7 Recommendations

Based on the findings, the following are recommended;

1. In –service courses which offer continuous development of agricultural science teachers appear to be the best framework in upgrading science teacher's needs as identified in this study.
2. Also to ensure that the programmes implemented meet its objectives, continuous monitoring ad evaluation by stakeholders and governing bodies should be systematically planned and followed.
3. Teachers of agricultural science should be trained in the use of ICT as well as other visual and audio visual instructional aids.
4. Teachers of agriculture should endeavor to participate in retraining programmes organized by stakeholders for improvement of their competence.
5. The competencies identified in this study should be utilized to organize retraining programmes in form of seminars, workshops or long vacation courses for teachers of

agricultural science on how to effectively use the school farm to enhance skill acquisition among secondary school students.

6. All secondary schools in the country should be encouraged to establish a well managed school farm.

5.8 Suggestions for Further Studies

Based on the findings of this study, the researcher suggests further research be undertaken in such areas;

1. The study could be repeated for junior secondary schools and other training institution in the country.
2. Capacity building needs of teachers of agriculture in the use of instructional materials in the teaching of agricultural science in secondary schools.
3. Professional skills needed by graduates of colleges of education for teaching agricultural science in junior secondary schools.

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