PERCEPTIONS OF SENIOR STUDENTS AND TEACHERS CONCERNING SELECTED COMPONENTS OF THE AGRICULTURE CURRICULUM IN TWO NIGERIAN UNIVERSITIES

By

MICHAEL EBEWO AKPAN
II

Bachelor of Science
Friends University
Wichita, Kansas
1982

Master of Education
Wichita State University
Wichita, Kansas
1984

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF EDUCATION
May 1986

Thesis
1986D
A315p
cop. 2

OKLAHOMA STATE UNIVERSITY LIBRARY

PERCEPTIONS OF SENIOR STUDENTS AND TEACHERS CONCERNING SELECTED COMPONENTS OF THE AGRICULTURE CURRICULUM IN TWO NIGERIAN UNIVERSITIES

Thesis Approved:

James P. Key
Thesis Adviser

Eddy Finley

Robert R. Price

Kenneth St. Clair

Norman N. Durham
Dean of the Graduate College

1258556

ACKNOWLEDGEMENTS

I wish to express my sincere appreciation to Dr. James P. Key, the chairman of my graduate committee and my major academic adviser, for his guidance and honest counsel which made the completion of my research and graduate program a reality. My indebtedness goes to other members of my graduate committee, Dr. Edward G. Finley, Dr. Robert R. Price, and Dr. Kenneth St. Clair, for their invaluable counsel and direction throughout the study.

My sincere gratitude equally is extended to the senior students and teachers in the two universities under study for their responses and return of the questionnaires, and to Drs. Moses Yorama and Sylvanus O. Abang for their assistance in the administration of the questionnaires.

A special thanks to Mrs. Perla Ward and Ms. Kay Porter, my typists, for their excellent services, and also to friends and colleagues for their innumerable contributions to the development and completion of this study.

The investigator would like to express his deep appreciation to the eternal God, for the zeal created in me; his father, Mr. Ebewo Akpan for his patience; and his brother, Rev. Fr. Cosmas M. Udomah for his prayers and encouragement throughout the study.

Finally, for the inspirations created toward the accomplishment of the goal of Doctor of Education in her husband and their father, I dedicate this work to my wife, Mrs. Juliana Ebewo Akpan and my two daughters, Emem Obong and Eti-Ime Michael Akpan.

I sincerely wish and hope that this work will serve as the initial and promising step for the partial repayment of my intellectual and spiritual debts.

TABLE OF CONTENTS

Chapter		Page
I.	INTRODUCTION	1
	Statement of the Problem	2
	Purpose of the Study	3
	Objectives of the Study	3
	Assumptions	5
	Scope and Limitations	5
	Definitions of Terms	6
II.	REVIEW OF LITERATURE	9
	Introduction	9
	Definitions and General Views Concerning Curriculum	11
	Factors Influencing Curriculum Development	13
	Related Studies on Curriculum Development in Higher Education in Agriculture in the Developing Nations	19
	Summary	24
III.	METHODOLOGY	26
	Introduction	26
	Population for the Study and Administration of Questionnaire	26
	Administering the Questionnaire	28
	Development of Instrument to Obtain Data	29
	Data Treatment	30
IV.	PRESENTATION AND ANALYSIS OF DATA	33
	Introduction	33
	Population for the Study	35
	Collection of Data	35
	Treatment of Data	35
	Perceptions of the Level of Knowledge Gained or Knowledge Imparted, Practical Content and Future Emphasis of Selected Areas in the Agriculture Curriculum	36
	Recommended Future Emphasis of Selected Factors, Items, or Procedures in Developing Agriculture Curricula	65

Chapter Page

Other Suggested Courses That Should Be Included in the Curriculum 70
Other Suggested Factors, Items or Procedures To Be Included in the Curriculum 75
Areas of Differences Between Students and Instructors 81

V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS 83

Introduction 83
Summary of Findings From Review of Literature 86
Summary of Findings From Analysis of Data 86
Summary of Findings Regarding the Recommended Future Emphasis of Selected Factors, Items, or Procedures in Developing Agriculture Curricula 97
Summary of Major Differences Between Students and Instructors From Data Analysis 98
Conclusions 101
Recommendations 106
Implications 108

A SELECTED BIBLIOGRAPHY 112

APPENDIXES 115

APPENDIX A - QUESTIONNAIRE 116

APPENDIX B - SUPPORTING INFORMATION 124

APPENDIX C - FUTURE EMPHASIS PERCEPTIONS OF SENIOR STUDENTS WHO NEVER STUDIED COURSES AND TEACHERS WHO NEVER TAUGHT COURSES 127

LIST OF TABLES

Table		Page
I.	Actual Population Showing Percentage of Returned Questionnaires by Group	27
II.	Absolute Limits For Use in Establishing Group Mean Scores for Questionnaire Parts I and II	31
III.	Knowledge Gained, Practical Content and Future Emphasis Perceptions of Students of Agriculture Mechanics and Soil Science Courses	37
IV.	Knowledge Imparted, Practical Content and Future Emphasis Perceptions of Teachers of Agriculture Mechanics and Soil Science Courses	40
V.	Knowledge Gained, Practical Content and Future Emphasis Perceptions of Students of Agricultural Economics, Rural Sociology and Agricultural Extension	43
VI.	Knowledge Imparted, Practical Content and Future Emphasis Perceptions of Teachers of Agricultural Economics, Rural Sociology and Agricultural Extension Courses	46
VII.	Knowledge Gained, Practical Content and Future Emphasis Perceptions of Students of Animal Production and Food Technology Courses	50
VIII.	Knowledge Imparted, Practical Content and Future Emphasis Perceptions of Instructors of Animal Production and Food Technology Courses	52
IX.	Knowledge Gained, Practical Content and Future Emphasis Perceptions of Students of Plant Production and Protection Courses	54
X.	Knowledge Imparted, Practical Content and Future Emphasis Perceptions of Instructors of Plant Production and Protection Courses	55
XI.	Knowledge Gained, Practical Content and Future	

Table Page

Emphasis Perceptions of Students of Industrial Work Experience (SIWE) Courses 58

XII. Knowledge Imparted, Practical Content and Future Emphasis Perceptions of Teachers of Student Industrial Work Experience (SIWE) Courses 59

XIII. Knowledge Gained, Practical Content and Future Emphasis Perceptions of Students of General Courses 62

XIV. Knowledge Imparted, Practical Content and Future Emphasis Perceptions of Instructors on General Courses 64

XV. Future Emphasis Perceptions of Senior Students on Selected Factors, Items, or Procedures in Developing and Implementing Curricula in Agriculture 67

XVI. Future Emphasis Perceptions of Instructors on Selected Factors, Items, or Procedures in Developing and Implementing Curricula in Agriculture 69

XVII. Student's Suggested Courses That Should be Included in the Curriculum 71

XVIII. Instructors' Suggested Courses That Should Be Included in the Curriculum 74

XIX. Students' Suggested Factors, Items, or Procedures That Should Be Considered When Developing and Implementing Agriculture Curricula 76

XX. Instructors' Suggested Factors, Items, or Procedures That Should Be Considered When Developing and Implementing Agriculture Curricula 80

XXI. Knowledge Gained, Practical Content and Future Emphasis Perceptions of Combined Students and Teachers of Agriculture Mechanics and Soil Science Courses 87

XXII. Knowledge Gained, Practical Content and Future Emphasis Perceptions of Combined Students and Teachers on Agricultural Economics, Rural Sociology and Agricultural Extension Courses 90

XXIII. Knowledge Gained, Practical Content, and Future Emphasis

Table Page

Perceptions of Combined Students and Teachers on Selected Animal Production and Food Technology Courses 91

XXIV. Knowledge Gained, Practical Content and Future Emphasis Perceptions of Combined Students and Teachers of Plant Production and Protection Courses 93

XXV. Knowledge Gained, Practical Content and Future Emphasis Perceptions of Combined Students and Teachers of Industrial Work Experience (SIWE) Courses 95

XXVI. Knowledge Gained, Practical Contents and Future Emphasis Perceptions of Combined Students and Teachers of General Courses 96

XXVII. Future Emphasis Perceptions of Combined Students and Teachers on Selected Factors, Items, or Procedures in Developing and Implementing Curricula in Agriculture 98

XXVIII. Respondents By Major Area of Study or Teaching 125

XXIX. Respondents Major Area of Study or Teaching By Place of Birth 126

XXX. Future Emphasis Perceptions of Senior Students Who Never Studied Courses 128

XXXI. Future Emphasis Perceptions of Teachers Who Never Taught Courses 131

LIST OF FIGURES

Figure		Page
1.	Map of Nigeria Indicating Locations of the Universities in the Study	8
2.	Continuous Interaction Model For Curriculum Development by MacDonald	15
3.	Factors to be Evaluated in School Curriculum by Conley	18

CHAPTER I

INTRODUCTION

Standards and accomplishments in agriculture and agricultural administration have failed to develop to the extent anticipated in the developing parts of the world, including Nigeria. The consequences of this malady are evidenced by massive importation of food materials and the draining of national foreign reserves, a heavy reliance on food aids, unemployment and underemployment, hunger and malnutrition.

In order to revolutionize the economy, and consequently, to increase food production, the federal government of Nigeria has increased allocation of funds for developing agriculture in the last few years by successively launching certain programs such as:

(1.) The "Operation Feed the Nation," otherwise known as the OFN, which was launched as a national program on May 21, 1976, by the then Head of State, Commander-in-Chief of the Armed Forces, Olusegun Obasenjo (The Development of Agriculture in the Cross River State of Nigeria, 1980).

(2.) The "Green Revolution" program, which was announced on Jan. 31, 1980, by the then President Alhaji Shehu Shagari (Cross River State of Nigeria, Program of Events, 1980).

(3.) Currently, with efforts beginning in late 1984, a program known as "Operation Grow More Food," has been launched by the military administration.

More and more it is being recognized that the dreams of Nigeria cannot materialize in a country that still holds to the seemingly archaic British concept of an educated man. This view is in accord with the work of Jennings-Wray (1982), which said:

> The rejection of the Western concept of an educated man and instead the vocationalization or diversification of education in order to produce people with a training at once general and technical, that is to say men who have acquired a technical skill in a specific field and are able to apply it and make it relevant to the objectives peculiar to evolving societies has been seen as a key solution to educational problems in Third World countries (p. 281).

The foundation of university education which began with the university college at Ibadan in 1948 and the establishment of the University of Nigeria (NSUKKA) in 1960 and the addition of subsequent institutions of higher learning called for a renewed emphasis in practical skills in agriculture and related subjects that can make Nigeria self-reliant in food production. The shift of emphasis has brought about the urgency to evaluate, revise, and develop curricula capable of making agriculture more problem-solving by directly addressing the needs of the common people in the Nigeria of tomorrow.

Statement of the Problem

Many educators as well as political scientists proclaim that the future of Nigeria lies in its leadership being able to develop the agriculture industry to a meaningful and particularly functional level. The attained development level should be functional in providing citizens with practical experiences and skills that are meaningful and related to individual's future career. The standard should be reasonable enough to transform the current academic-oriented school curricula to a more individual or society-oriented approach.

It is noteworthy to assert that the federal government of Nigeria and institutions of higher learning are committed to such agricultural development. Definitely a thorough knowledge of the present situations helps us to prepare grounds for the future.

There is, then, an obvious need to make an assessment of how students and their teachers perceive the extent of practical content of courses offered; the knowledge gained or knowledge imparted while studying or teaching these courses; and the recommended future emphasis placed on the selected curriculum components, within their agricultural curriculum. It is hoped that such perceptions and judgments of students and teachers will provide valuable inputs for future development and revision of agricultural curricula in the two Nigerian universities under study.

Purpose of the Study

The main purpose of this study was to determine the perceptions of the senior students and their teachers concerning selected components of the agricultural curricula in two Nigerian universities.

Objectives of the Study

The specific objectives of the study were:

1. To determine the level of knowledge gained by students while studying the selected courses in the curriculum, as perceived by students in the two universities.

2. To determine the extent of practical contents of courses offered within the agricultural curriculum in two Nigerian universities as perceived by:

(a) Senior students in the College of Agriculture in the two universities

(b) Teachers in the College of Agriculture in the two universities.

3. To determine the level of knowledge imparted to students while teaching the selected courses in the curriculum, as perceived by teachers in the two universities.

4. To determine the future level of emphasis which should be placed on the selected courses in the agriculture curriculum in the two Nigerian universities as perceived by:

(a) Senior students in the Colleges of Agriculture in the two universities

(b) Teachers in the Colleges of Agriculture in the two universities.

5. To determine the recommended future level of emphasis that should be given to selected factors, items, or procedures, when developing and implementing curricula for the training of professionals in agriculture, as perceived by:

(a) Senior students in the Colleges of Agriculture in the two universities

(b) Teachers in the Colleges of Agriculture in the two universities.

6. To determine the areas of differences between the senior students and the teachers of the two universities on the assessment of:

(a) The extent of practical contents of courses offered within the agriculture curriculum

(b) The level of knowledge gained or knowledge imparted

while studying or teaching these courses, respectively, by both students and teachers in the two universities.

(c) The future level of emphasis which should be placed on the selected curriculum components within the agriculture curriculum.

7. To discover additional courses, factors, items or procedures that should be included in the curriculum, as perceived by teachers and students of the two universities under study.

Assumptions

Validity of data in this study was subjected to the following assumptions:

1. All the respondents would indicate the emphasis and adequacy they felt should be placed on the various agricultural curriculum components listed.

2. Respondents were willing and able to answer the questionnaire.

3. The respondents answered each item of the questionnaires honestly and to the best of their knowledge.

4. The instrument communicated the same information to all the respondents.

Scope and Limitations

This study was limited to:

1. The instructors or teachers of the two universities.

2. Senior students currently enrolled, and had finished approximately two-thirds of their courses in the two universities.

3. Curriculum, except for the portion labelled "general studies" was primarily limited to content which was considered directly related to agriculture.

Definitions of Terms

The following terms are technically defined for the purposes of this study:

1. Agricultural Curriculum Components: All courses, learning activities and more or less related experiences for students in the College of Agriculture.

2. Curriculum: The total learning experiences and activities that a student has under the guidance of the school.

3. Emphasis: The degree of insistence or stress that each respondent places on the various components of the agricultural curriculum.

4. Occupation: The work that a person does for a living.

5. Adequacy: As used in this study, how well the worker will perform on the job. This depicts the degree of proficiency possessed by the student upon completion of the selected agricultural components in the respective institutions.

6. Senior Students: Students who are near completion of their training at their respective institutions.

7. Instructors or Teachers: Those who are currently teaching agriculture at either of the two universities.

8. Respondents: The senior students and teachers in the Colleges of Agriculture at the two universities under study.

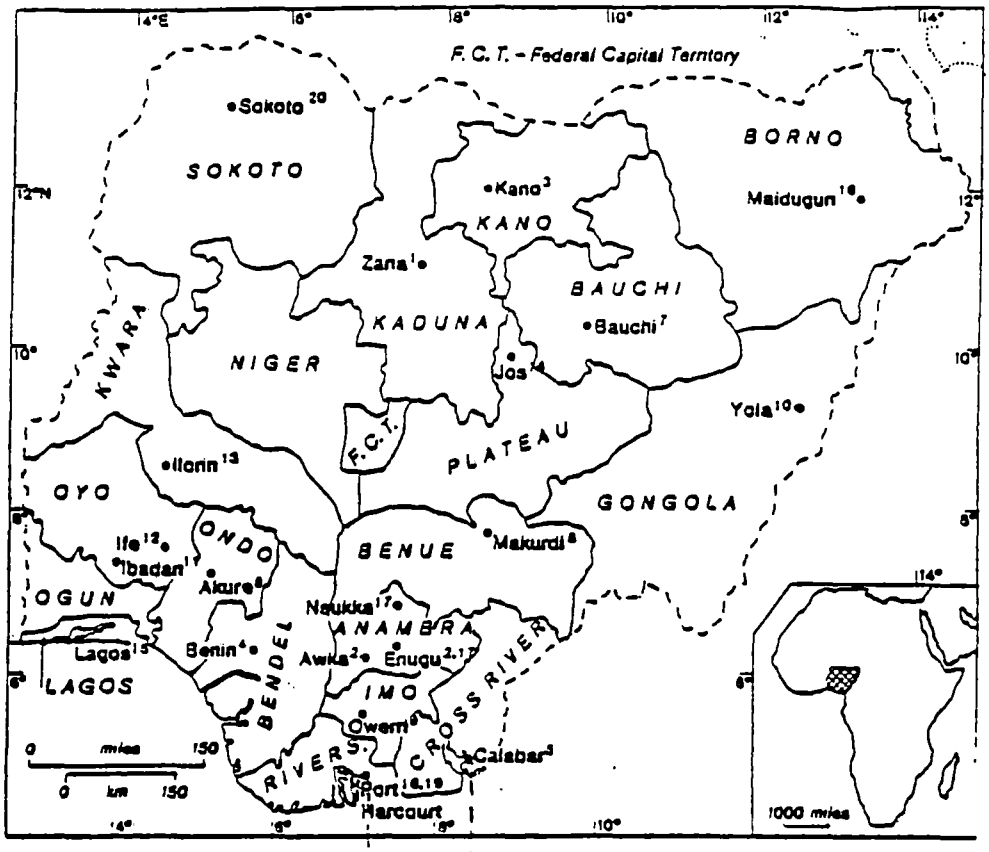
9. Rivers State University of Science and Technology, Port

Harcourt: Formerly the College of Science and Technology; raised to university status in 1980. Degrees granted are Bachelor's, Master's in many areas and Ph.D. in biological sciences (See Figure 1).

10. University of Calabar, Calabar: Was founded in 1975. Degrees granted are Bachelor's, Master's and Ph.D.'s in many areas (See Figure 1).

11. Assessment: Evaluation; the process of determining the worth of something.

12. SIWE: This is an acronym for student industrial work experience program, which is organized by higher institutions in Nigeria to help students acquire one year of practical experience in the public or private sector of the economy.



University of Calabar, Calabar

Rivers State University of Science and Technology, Port Harcourt

Source: Commonwealth Universities Yearbook, 1983, p. 1962.

Figure 1. Map of Nigeria Indicating Locations of the Universities in the Study

CHAPTER II

REVIEW OF LITERATURE

Introduction

The economic situation of Nigeria has evoked concerns from caring and patriotic individuals. The impact of the current situation is most obvious in the agricultural sector of the economy, where the level of food production has greatly fallen below the country's population growth rate. A lot of blame has been shifted to the educational system in Nigeria, since it has failed to provide practical skills and meaningful experiences to increase food production. This charge was once made by Uka (1974) in his study of the Nigerian youth and vocational education, when he said that the problems crippling agriculture and other related and non-related industries in Nigeria at that time, were due to definite short-comings in the educational system. Again, Uka in the same study pointed out his conviction that, it was the responsibility of colleges and universities to give students the requisite professional training that could help to acquire competences which are ultimately needed in the relevant occupations.

Similarly, findings of a study carried out by Nduka (1965), brought further protests as to efficacy of the Nigerian educational system citing failure to provide the needed leadership, and implying that the academic curricula and the teaching methods were structured to only train people to work as clerks and interpreters.

A few studies do document that in the agricultural education sector, a little has been accomplished to help increase food output in agricultural mechanization. This is also attested to by Yorama (1979), when he cited from the work of Abaoba, that certificates and diplomas in agricultural mechanization at the Ahmadu Bello University were the only evidence of programs in Nigeria for the training of intermediate personnels.

Ojo (1973) in his study of factors motivating young Oklahomans to choose farming as a career, with implications for the choice of farming as a career in Nigeria, suggested that farmers in Nigeria can improve their lots, if emphasis is laid on agricultural research, suitable machineries and equipment, loan facilities, revision of land tenure systems, positive attitude toward work and love for country life. Ojo further urged the government to implement the original plans to use a higher proportion of her revenue to improve agriculture, while the various institutions give their maximum support.

The government of Nigeria has charged all universities with the key role to work with the local people to bring agricultural development to a reasonable standard. This is evidenced in print, as Yorama (1979) indicated:

> Nigerian universities have been mandated to begin an open universities system by which field staff can study through correspondence, night classes, etc. The University of Ife is currently conducting a research project which involves sample villages in the locality, with the objective of starting joint production through the formation of farmer cooperatives (p. 35).

This new responsibility society has bestowed on the universities makes effort to restructure academic curricula to meet the needs of the individuals and society imperative, and ever increasing. But,

curriculum development requires a cooperative effort since the people who are going to implement the decisions and those who are going to be affected by the decisions must share their inputs for an acceptable curriculum. Again, the formation of a truly functional curriculum must be accepted as just the beginning and not the end. School curriculum must be constantly evaluated to make sure that it keeps up with the times. In its evaluation, input from all quarters becomes very important. On the basis of the above standpoint, the evaluation of the present and future emphasis and of the adequacy of the Nigerian universities' agricultural curriculum components becomes necessary.

This review covers the following main topics:

1. Definitions and general views concerning curriculum
2. Factors influencing curriculum development
3. Related studies on curriculum development in higher education in agriculture in developing countries
4. Summary.

Definitions and General Views Concerning Curriculum

Curriculum has been defined in a number of ways by prominent educators. In order to place curriculum in its proper context, the different views presented by different practitioners must be examined. Hass (1980) said:

> Curriculum is all the experiences that individual learners have in a program of education whose purpose is to achieve broad goals and related specific objectives, which is planned in terms of a framework of theory and research or past and present professional practice (pp. 4-5).

Hass was more emphatic on the phrase program of education. He

further contended that curriculum is a planned program based in part on prepared curriculum materials and planning by teachers and other professional staff members. The above viewpoints have made it incumbent on both the students and teachers to share inputs in the actual development and revision of educational curriculum. Hass (1980) further asserted that:

> All civilized societies establish schools and programs of education in order to induce the young into the culture and to transmit the culture and values of the society. But today the work of the school must be constantly conducted in the midst of social and economic pressures and changes. Thus, one of the major areas of consideration in all curriculum planning must be social forces as reflected in (1) social goals, (2) cultural uniformity and diversity, (3) social pressures, (4) social change, (5) future planning, and (6) concept of culture (p. 6).

Arieh (1977) reproduced a comprehensive definition of curriculum as was stated by Ochs:

> This term is often used to designate equally a programme for a given subject matter and for a given grade, a programme for a given subject for the entire study cycle . . . Further, the term "curriculum" is sometimes used in a wider sense to cover the various activities through which the content is conveyed as well as materials used and methods employed (pp. 5-6).

Many more educators assessed curriculum from a more general approach: King and Brownell (1966) indicated that curriculum should be considered solely as disciplined knowledge. Their sole belief is that only content structured as the disciplines should be brought into the school's curriculum. The sum total of these views shows curriculum as knowledge organized in subject matter form for optimal learning.

Doll (1974) looked at curriculum as a process and also a product when he indicated, "Curriculum is (1) guided, (2) plans for learning, (3) end or outcomes of being educated, and (4) system for achieving educational production" (p. 4).

Different people have looked at the concept of curriculum from a conservation approach. This was portrayed by Cay (1966) when he described curriculum as an umbrella which covers schools. He said it is an educational design of learning experiences for different levels and ages of children, youths and adults in schools. He also indicated that curriculum was a people's values, beliefs, philosophies, and their practice regarding education.

Burns and Brooks (1970) apparently were on the same line of reasoning when they said:

> . . . Our curricula must reflect the complex interrelationships and processes inherent in the many problems facing our society. Knowledge, understanding, skills, attitudes, appreciations, interest and processes should be studied as integrated units in curricular designs which reflect the rapidly changing aspects of our society (p. 7).

Factors Influencing Curriculum Development

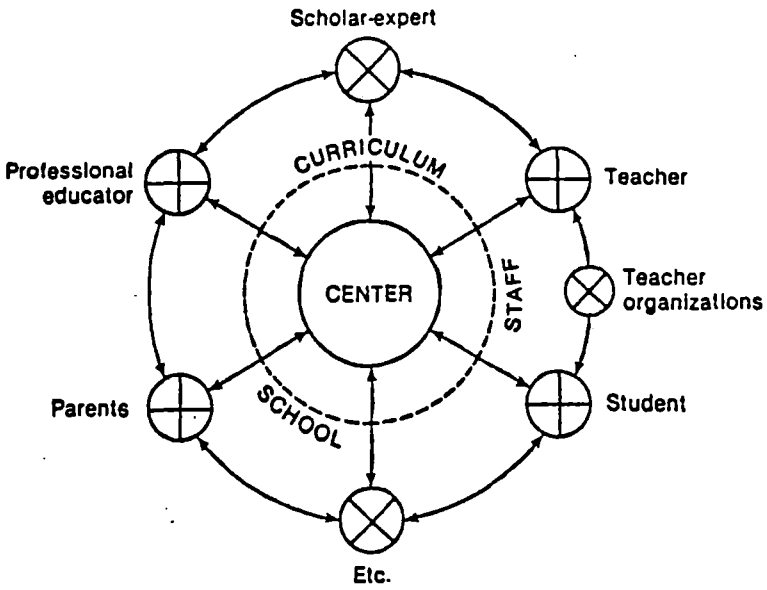
The onrushing future requires many different autonomous, alternative efforts to cope with its challenges and problems. Schools are expected to design comprehensive and flexible curricula capable of equipping students with the coping skills to exist in the future. Future education has been recognized by renowned educators. Prominent in the list was Hass (1980) who said:

> Education for the future is almost useless unless it prepares learners to meet problems that are new and that neither they nor anyone else has ever encountered before (pp. 33, 256).

However, the nature of curriculum development requires democratic and collaborative models capable of developing strategies through which the goals and needs of individuals and society can be reached. The most fundamental factor to be considered in curriculum development is the human factor.

Unruh (1975) indicated that those who have a direct share in curriculum development at some level such as policy making, producing, or utilizing curricula should be involved. His stand on the curriculum issue depicted that the various publics having a stake in curriculum decision-making at all levels should be involved.

MacDonald (1971) also emphasized meaningful involvement by all parties affected by curriculum decision-making. He, however, condemned educators who considered that curriculum decisions should emanate from experts, be dispensed to teachers, and finally presented to students. He suggested that students and teachers should also be involved in making curriculum decisions as is illustrated in Figure 2.



Source: MacDonald, J. Responsible Curriculum Development. In E. Eisner [ed.], Confronting Curriculum Reform. Boston: Little, Brown and Co., 1971.

Figure 2. Continuous Interactions Model for Curriculum Development by MacDonald

Some educators have expanded the reasons surrounding curriculum development and reforms to include the fact that we are living in the age of industrialization and modernization. According to Bell (1967):

> . . . The wise curriculum person confronted with preparing programs appropriate for the now and the future realizes that we are experiencing worldwide industrialization and modernization, diminishing of valuable agricultural lands, decreasing importance of primary and secondary occupations, the rise in worldwide literacy and educational levels, and the increasing capability for mass destruction (p. 643).

Every school system tries to provide gainful experiences to her students. Optimal learning takes place in a democratic and child-centered classroom setting. One important notion associated with the child-centered approach to education is the idea that children are innately equipped in some mysterious fashion with the ability to know what is best for them. From this assumption, it becomes necessary to assert that the child himself must be in the most strategic position to know and select those components of the environment that correspond most closely with his current development needs. This point of view has made the role of students in curriculum development imperative.

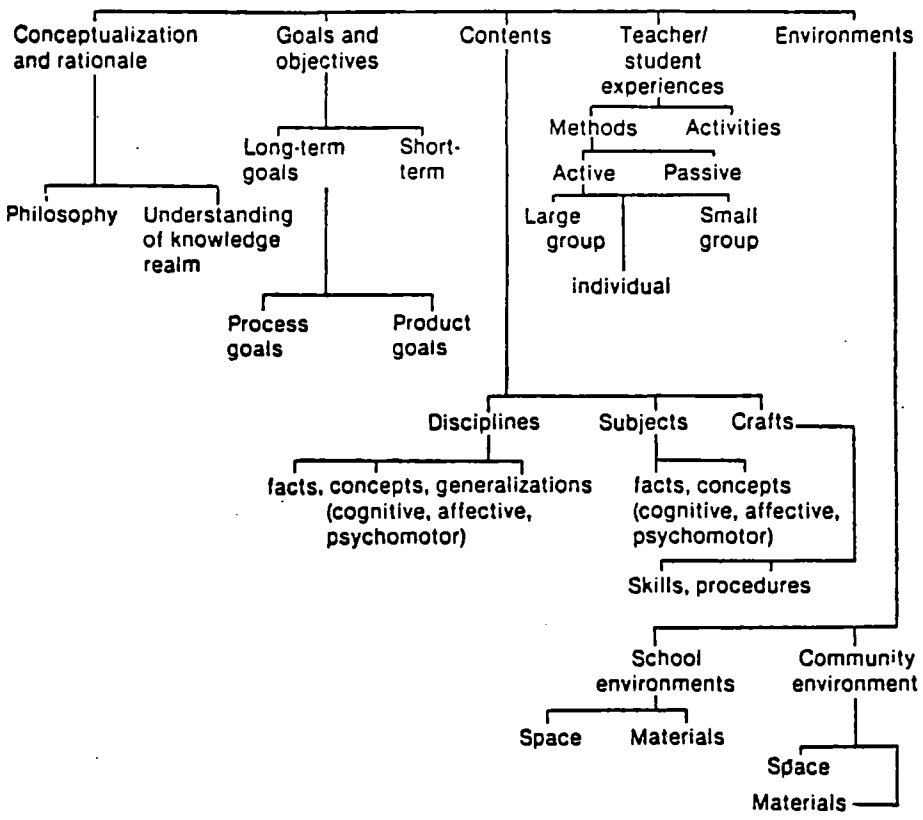
The basis of educational innovations is curriculum evaluation. Whether evaluation is done formally or informally, it provides the basis for deciding whether to address a particular need or not, whether to modify or create a program, and also whether to continue a program or terminate it. Evaluation can also furnish one with information appropriate for deciding what should be done with regard to staff and community education. There are several reasons for adopting evaluation processes in schools. Conley (1973) identified several general purposes of evaluation:

1. To increase the substantive knowledge base regarding education, in our case the total curriculum process.
2. To furnish information that will facilitate making decisions as to whether to continue, adjust, or discard an on-going curriculum.
3. To provide justification for a political, social and economic action relating to the curricular program.
4. To create a report that can be utilized by all appropriate persons in the educational system resulting in the introduction and continuance of effective curricula.
5. To generate information that can be employed in educating the community as to the rationale for a particular program, and the effectiveness of the program (p. 353).

Apart from the educational goals and objectives, student and teacher experiences regarding the curriculum contents are important tools for curriculum development. Since the school system does not operate in a vacuum, the environment surrounding the school and the society in general have influence in the decision on what the contents of the school curriculum should be. Conley (1973) in his curriculum and instruction in nursing, further listed contents, environments, goals and objectives, methods and activities, as some of the factors or procedures to be constantly evaluated in the school curriculum (See Figure 3).

Teachers are very important elements in curriculum development. Norton and Norton (1936) reasoned that curriculum revision helps teachers to redefine the purpose of education, improve the means for achieving these purposes, and also help teachers to stay current with issues in education.

In the last three decades, social forces emanating from the society



Source: Conley, V.C. Curriculum and Instruction in Nursing. Boston: Little, Brown, 1973, p. 298.

Figure 3. Factors to be evaluated in school curriculum by Conley

as a complex entity, have impacted on school curricula. The investigator listed the following as prominent variables under social forces, which influenced the development of school curricula:

1. TV and computer evolution
2. Industrial evolution and space technology
3. Many single-parent families
4. Heterogeneity of cultures
5. Moral values
6. Student traits, individual personalities
7. Parental differences in economic and social positions.

To produce workable and acceptable school curricula, educators should try to accommodate most of the points listed by the researcher.

Another important variable worth mentioning was the importance of the goals educational programs have in the formulation of school curricula. Hass (1980) categorized the general goals of education into four broad areas: (1) education for citizenship, (2) for vocation, (3) for self realization, and (4) critical thinking (p. 8).

Related Studies on Curriculum Development in Higher Education in Agriculture in the Developing Nations

Although there were a few studies which portrayed agricultural curricula of Nigeria in higher education, the researcher thought it applicable to use studies done in other developing nations, as additional sources of information. The rationale behind this approach is from the reasoning that developing nations have similar problems and

understanding the problems facing a particular group of people can help to project possible strategies for solving these problems.

The educational systems in the developing nations have not been restructured to meet modern standards. This results in schools still teaching and helping to propagate the old farming methods which produce little to feed the family. New York Times (February 6, 1977) said, "Egyptian agriculture cannot meet food needs because of ancient farming methods and the lack of land."

The same thought trends were followed by the UNESCO (1971) which illustrated:

> . . . Agricultural institutions vary from quite adequate to meager or virtually nonexistent. Facilities often reported as being inadequate in both quantity and quality include laboratory supplies and equipment, farm lands, farm tools and equipment, textbook reference and other library materials of local importance . . . These have little application to local conditions of climate and soil (pp. 31-32).

The inability to adapt western education to meet local situations in the developing nations, including Nigeria, has created educational deficiencies. However, a failure in education automatically leads to less investments in health, lack of practical training and skills. The absence of these in any system has a strong association with the advent of poor nutrition and population explosion.

The developing world is currently faced with the problem of overpopulation. As a result, too many aspiring students are waiting to get admissions into institutions of higher learning. This problem is further aggravated by inability of the different nations to build enough universities and colleges of agriculture that can accommodate students. Heyneman (1983) testified that teachers, furniture, equipment, and materials in schools of many developing countries are below the standard

considered minimal in the industrialized nations. He further defended that the gap in classroom quality between high and low income countries is widening as more students are admitted into schools in the developing world with less facilities to teach them with.

In Nigeria and many other developing nations, agricultural development is the sole responsibility of the bureaucratic Ministry of Agriculture. This monopoly is a menace rather than an asset to agricultural extension services of the countries affected. The universities and colleges of agriculture that would have been in the appropriate position to identify the needs and goals of the local people have adopted a nonparticipatory approach, thus making things worse for the agriculture industry. This has posed a challenge to community educators in Nigeria. These problems were earlier attested to by Price (1984) who stated that there is little or no involvement of schools or colleges in an effort to improve agricultural production or rural development, and that college experiment stations when functional are not well-equipped to provide appropriate experiments that focus on the farm in the developing nations (p. 124).

Curriculum reforms have long been overdue in Nigeria and many other developing nations. Concerning the problem arising from the needs for curriculum reforms in the developing world, Okoye (1966) made the following recommendations:

1. Because agricultural development is a critical issue, the mass population must be taught the need for agricultural education designed to promote the welfare, social and economic progress of the entire nation.

2. Teacher education is the critical factor in having successful programs in agricultural education.
3. Teacher education programs should give adequate consideration to teaching people in the villages and other rural areas.
4. Teachers should be trained in programming and curriculum development.
5. The curriculum at all levels of agricultural education must express the real life in the community, and emphasize the value and dignity of agriculture.
6. A strong, systematic, aggressive and dynamic recruiting program of young and able Nigerians to the agriculture teaching profession is imperative (p. 227).

One major problem that faces agriculture industry is the lack of contact or coordination between the training institutions and employers of agricultural graduates. It is therefore hard to get information "from the horse's mouth," as to basic skills required of graduates in certain areas of agriculture who may need jobs in either agricultural production or agricultural professions. The results of this omission are two-fold: (1) The universities and other colleges of agriculture do not care to provide information to potential students of agriculture on what kind of professions each major specialization area leads them to in the job market, and (2) The universities and other training colleges do not care to find out the basic skills required of graduates employed in the different sectors of agriculture. The lack of coordination between the universities and other training colleges and the business world only helps to worsen the already critical employment situations in Nigeria. Above all, employers do not care to employ people who have qualifi-

cations that relate to the job situations, since they hope to train their employees while on the job.

Criteria used to admit students into colleges of agriculture lay much emphasis on entry certificates rather than experience in agriculture. Students with grades One or Two have a greater probability of being admitted, provided they scored better grades in supporting courses such as mathematics, chemistry, biology, geography and many other subjects deemed necessary by the admission board. The obvious result is that city-dwelling students who are perceived to be "smarter" get admitted at the expense of the rural students who, through working with parents on farms, acquired experience. The common observation is having a bunch of trained agriculturists who are not ready to use their hands. The researcher thought that if the admission criteria for agriculture students have shifted emphasis from entry qualification to experience in agriculture, maybe a new era would have dawned regarding an effort to train professionals who are ready to use their hands. When this happens, we are then sure that we are about halfway from the battlefield where hunger, malnutrition, unemployment and underemployment can be fought with zeal and hope of success.

Concerning teaching and learning styles, the old phrase "give and take" reigns. The instructor expects you to reproduce what you were taught, with little emphasis on application to solving local problems. This method only succeeds in getting students oriented toward rote learning. The most important benefit Nigeria can derive from the existence of higher education is when local problems are brought to focus in classroom situations, and possible solutions are jointly sought out to solve these problems. Students will find themselves in similar

real-life situations and information gained from role-playings in classrooms can help them to solve these problems.

Agricultural institutions do not bother to keep in touch with their former graduates. It is hard to keep informed as to what skills are really required by graduates from different areas of agriculture. Above all, follow-up research is hard to carry out to ascertain the adequacies attained in the students already passed out of the different programs.

Summary

The first part of this chapter tried to highlight short-comings of the Nigerian agricultural education programs which aggravate the already worsened economic situation of the country, through reviewing previous studies done in agriculture. The literature was later sectioned to cover the following topics: (1) Definitions and general views concerning curriculum development, (2) Factors influencing curriculum development, (3) Related studies on curriculum development, in higher education in agriculture in the developing nations, (4) Summary.

The investigation covered some of the problems facing agricultural education in Nigeria and other developing nations. Some of the problems included were:

1. The inability to adapt Western educational systems and traditions to meet local situations.

2. Lack of emphasis in practical and skills training,

3. More students wanting to get admitted into colleges than the facilities available to train them with,

4. The lack of cooperation between the incumbent Ministry of

Agriculture and the universities or colleges of agriculture which has paralyzed agricultural development in Nigeria, and

5. The lack of cooperation between the colleges of agriculture and employers or former students to find out skills that need to be improved in current students which can brighten their employability.

In the face of all the listed omissions in the Nigerian educational system, curriculum revision and reforms were urgently needed which could equip its trainees with the appropriate tools on the match to boost agricultural production. Okoye (1966, p. 277) made a very important contribution when he listed some recommendations necessary for curriculum reforms in agricultural education in Nigeria.

Generally speaking, the students, teachers, the community and experts are the untapped resources that can be used in the development of workable educational curricula which will be more beneficial to the learner than what is available now in Nigeria.

CHAPTER III

METHODOLOGY

Introduction

This chapter is designed to deal with the population for the study, development of the questionnaire and/or instrument, the handling and administration of the questionnaire, and treatment of the data.

Population for the Study and Administration of Questionnaire

The study population included the total of instructors or teachers and senior students presently serving at:

1. The Rivers State University of Science and Technology, Port Harcourt, Nigeria

2. The University of Calabar, Calabar, Nigeria

The actual population and the sample percentages of each school are shown on Table 1.

For the Rivers State University of Science and Technology, Port Harcourt, the included population was:

Senior students	100 percent
Instructors or teachers	100 percent

For the University of Calabar, Calabar, the included population was:

Senior students	100 percent

TABLE I

ACTUAL POPULATION SHOWING PERCENTAGE OF RETURNED QUESTIONNAIRES BY GROUP

Institution	Institutional Group	Number Surveyed	Number Responded	Percentage Return
Rivers State University of Science and Technology	Students	52	52	100*
	Instructors or Teachers	7	7	100*
University of Calabar	Students	27	27	100*
	Instructors or Teachers	5	5	100*
TOTAL		91	91	100*

*We are not absolutely certain this is 100% of the population, but to the best of our knowledge, it represents 100% of the total population.

Instructors or teachers 100 percent

Again, 100 percent of the senior students and 100 percent of the instructors or teachers was appropriate since the study population was a small size and was economically feasible to be surveyed for the study.

Administering the Questionnaire

All the senior students and instructors or teachers in the colleges of agriculture of the Rivers State University of Science and Technology, Port Harcourt, Nigeria, and the University of Calabar, Calabar, Nigeria, respectively, were surveyed. On September 3, 1985, half of the questionnaires were sent with the help of Dr. Moses Yorama, an ex-student of Oklahoma State University and a lecturer in the Rivers State University of Science and Technology. The instruments were to be administered to all the senior students and instructors or teachers in the college of agriculture of the said institution. On October 2, 1985, the other half of the questionnaires were sent through Mr. Aloysius David Isoh, a Nigerian student at Oklahoma State University, visiting home, to Dr. Sylvanus Obi Abang, an ex-student of Oklahoma State University and a lecturer in the University of Calabar, Calabar, Nigeria. These instruments were also to be administered to all the senior students and instructors or teachers in the college of agriculture of the said institution. Information containing suggestions for the administration of the questionnaires also accompanied each set of questionnaires (See Appendix A).

During the fall semester of the 1985/86 academic session, questionnaires were administered to the faculty members in the two universities under study during their regular faculty meetings. The

other questionnaires were administered to the students during their class meetings. On January 6, 1986, the completed questionnaires were sent in from the Rivers State University of Science and Technology by Dr. Moses Yorama after administration through Ms. Esther Beako when she was returning from a visit to Nigeria. The completed questionnaires from the University of Calabar, Nigeria, were returned through Mr. Aloysius David Isoh, who was also returning from a visit to Nigeria. The total number of respondents that participated in the study in the two institutions was ninety-one (91) and the breakdown of their compositions is shown in Table I. The ninety-one (91) people that took part in the investigation were believed to represent one hundred percent (100%) of the senior students and instructors or teachers in the colleges of agriculture in the two universities under investigation. It is necessary to caution that we have no way of establishing whether the ninety-one (91) respondents that completed and returned their questionnaires really comprised one hundred percent (100%) of the population for this study; but to the best of of our knowledge, it represents one hundred percent (100%) of the total population.

Development of Instrument to Obtain Data

Because of economy of time and money, the uniformity of questions, and the number of respondents, it was determined that a questionnaire would be the best instrument to be used in this study.

Questionnaires were developed by the researcher in consultation with the author's major advisor, his research committee, the faculty of the Department of Agricultural Education, and other friends and faculty

in related fields. Items representing the agricultural education curriculum components of the two universities under study were formulated based on the verbal information and also information obtained from schools of similar standard from Nigeria and other developing countries cited in the literature review. These questions were formulated using a five-point Likert-type scale to elicit information from the senior students and agriculture teachers concerning the practical significance and future emphasis and adequacy placed on the various selected components of the agriculture curriculum in the two universities under study.

The instrument was pretested to insure a high degree of communication between the respondents and the researcher. The pretesting was done on July 25, 1985. Ten students who were familiar with agriculture curricula in institutions of higher learning in Nigeria who were studying in Oklahoma State University were requested to complete a draft of the instrument. From criticisms obtained and also inputs from faculty, a revised version of the instrument was obtained.

Data Treatment

Data from the two groups of respondents were secured and collated; mean scores and appropriate ranks were determined for each item according to the group means established by absolute limits, as shown in Table II.

For the determination of the mean scores for the level of knowledge gained or knowledge imparted while studying or teaching the courses listed, the extent of practical contents of these courses and the recommended future emphasis of these components within the curriculum by

TABLE II

ABSOLUTE LIMITS FOR USE IN ESTABLISHING GROUP MEAN SCORES FOR QUESTIONNAIRE PARTS I AND II

Questionnaire Part Number	Response Category	Numerical Value for Response	Absolute Units
Parts I and II	Very Much Emphasis	5	4.50 - 5.00
	Much Emphasis	4	3.50 - 4.49
	Some Emphasis	3	2.50 - 3.49
	Little Emphasis	2	1.50 - 2.49
	Very little Emphasis	1	1.00 - 1.49

the respondents, a summed rating scale was used. A summed rating scale is defined by Kerlinger (1964) as:

> A scale, one type of which is a Likert-type scale, consisting of a set of attitude items, all of which are considered of approximately equal value and to which subjects respond with degrees of agreement or disagreement (intensity). The scores of the items of the scale are summed and averaged to yield an individual's attitude score. As in all attitude scores, the purpose of the summed rating scale is to place an individual somewhere on an agreement continuum of the attitude in question (p. 496).

Kerlinger added, "Of the three types of scales, the summed rating scales seem to be the most useful in behavioral research" (p. 487). He believed that this scale could be improved in various ways to meet the needs of the researcher. Because of the flexibility in the use of this scale, the researcher used the following for data analysis:

Response Category	Numerical Value
Very Much	5
Much	4
Some	3
Little	2
Very Little	1

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

The purpose of this study was to determine the perceptions of the senior students and their teachers concerning selected components of the agriculture curriculum in two Nigerian universities.

The specific objectives of the study as stated on pages 3, 4 and 5 were:

1. To determine the level of knowledge gained by students while studying the selected courses in the curriculum, as perceived by students in the two universities.

2. To determine the extent of practical contents of courses offered within the agriculture curriculum in two Nigerian universities, as perceived by:

    (a) Senior students in the Colleges of Agriculture in the two universities

    (b) Teachers in the Colleges of Agriculture in the two universities.

3. To determine the level of knowledge imparted to students while teaching the selected courses in the curriculum, as perceived by teachers in the two universities.

4. To determine the future level of emphasis which should be placed on the selected courses in the agriculture curriculum in the two

Nigerian universities, as perceived by:

(a) Senior students in the Colleges of Agriculture in the two universities

(b) Teachers in the Colleges of Agriculture in the two universities.

5. To determine the recommended future level of emphasis that should be given to selected factors, items, or procedures, when developing and implementing curricula for the training of professionals in agriculture, as perceived by:

(a) Senior students in the Colleges of Agriculture in the two universities

(b) Teachers in the Colleges of Agriculture in the two universities.

6. To determine the areas of differences between the senior students and the teachers of the two universities on the assessment of:

(a) The extent of practical contents of courses offered within the agriculture curriculum

(b) The level of knowledge gained or knowledge imparted while studying or teaching these courses, respectively, by both students and teachers in the two universities.

(c) The future level of emphasis which should be placed on the selected curriculum components within the agriculture curriculum.

7. To discover additional courses, factors, items, or procedures that should be included in the curriculum, as perceived by students and teachers of the two universities under study.

Population for the Study

The data were secured from a population consisting of all the senior students and all instructors or teachers in the Colleges of Agriculture presently serving at:

1. The Rivers State University of Science and Technology, Port Harcourt, Nigeria.

2. The University of Calabar, Calabar, Nigeria.

Data containing the actual population and the sub-group percentages of each school were shown on Table 1.

Collection of Data

The refined questionnaires were administered to the respondents in the two institutions under study during their student and faculty meetings, by the two instructors or teachers earlier mentioned. Hints for the completion of the questionnaires were also explained to the respondents. The completed questionnaires were returned by early Spring semester of 1986 through two Nigerian students on their return from a visit to Nigeria.

Treatment of Data

Data were collated by the use of the SAS package at Oklahoma State University Computer Center. Means, ranks and appropriate ratings were calculated for the various components for each individual group, as well as for the combined groups within the respective institutions included in the study. The compiled mean scores, ranks and the ratings obtained were used to assess the level of perceived knowledge gained or imparted, the practical contents and future emphasis that should be given to the

selected components in the agriculture curriculum. Absolute limits for assessing values had been predetermined and are shown in Table II. Appropriate frequencies and ranks were also determined for the suggested courses, factors, items or procedures to be included in the curriculum. Values obtained from the data analyzed were used for comparisons and the drawings of necessary conclusions. The detailed findings were shown in Tables III through XX.

Perceptions of the Level of Knowledge Gained or Knowledge Imparted, Practical Content and Future Emphasis of Selected Areas in the Agriculture Curriculum

Agriculture Mechanics and Soil Science

Data in Table III show responses given by the senior students from the Colleges of Agriculture of the Rivers State University of Science and Technology and the University of Calabar for some selected courses in the area, Agriculture Mechanics and Soil Science. The combined group of senior students who studied the course, gave slightly different ratings than the individual groups of students from the two institutions, with a rating of "Much" to "Soil Fertilization and Fertilizers" and a mean score of 4.00 and a rank of first among the nine courses in this area for knowledge gained. However, students from the Rivers State University of Science and Technology and University of Calabar both rated "Soil Fertilization and Fertilizers" with a "Much" level and mean scores of 3.98 and 4.06, respectively, for knowledge gained while studying the course. All other courses rated at a "Much" level for knowledge gained by the combined group of students, were "Soil

TABLE III

KNOWLEDGE GAINED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF STUDENTS OF AGRICULTURE MECHANICS AND SOIL SCIENCE COURSES

Courses	RSUST; N=52							Uni Calabar; N=27							All Students; N=79							
	Studied							Studied							Studied							
	KG			PC		FE		KG		PC					KG			PC			FE		
	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Irrigation and drainage	23	3.57	M	2.39	L	4.26	M	7	3.71	M	2.00	L	4.57	VM	30	3.60	M	3	2.30	L	6	4.33	M	1
2. Irrigation engineering	8	3.50	M	2.63	S	3.75	M	3	3.67	M	2.67	S	4.00	M	11	3.55	M	4	2.64	S	7	3.82	M	8
3. Food processing engineering	22	2.68	S	1.68	L	4.29	M	4	3.50	M	1.25	VL	4.50	VM	26	2.81	S	8	1.62	L	8	4.32	M	3
4. Surveys	24	3.25	S	3.17	S	4.04	M	9	2.89	S	2.78	S	4.00	M	33	3.15	S	7	3.06	S	2	4.03	M	7
5. Agricultural machines and workshop	40	3.40	S	3.25	S	4.32	M	17	2.94	S	2.59	S	4.35	M	57	3.26	S	6	3.05	S	3	4.33	M	1
6. Machine maintenance and safety	31	3.42	S	2.84	S	3.90	M	21	3.38	S	2.81	S	4.24	M	52	3.40	S	5	2.83	S	5	4.04	M	6
7. Soil morphology and erosion	34	3.62	M	2.85	S	4.06	M	14	3.79	M	3.50	M	4.57	VM	48	3.67	M	2	3.04	S	4	4.24	M	5
8. Soil fertilization and fertilizers	46	3.98	M	3.30	S	4.24	M	16	4.06	M	2.87	S	4.56	VM	62	4.00	M	1	3.20	S	1	4.32	M	3

N = Number of responses on each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N* = Only includes those students who studied and teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits in Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

Morphology and Erosion," "Irrigation and Drainage," and "Irrigation Engineering," with ranks of second, third and fourth, respectively, and the respective mean scores of 3.67, 3.60 and 3.55. However, for the above courses, the individual student group rated their knowledge gained while studying these courses as being of "Much" category. All other courses were rated by both combined and individual student groups as being of "Some" knowledge category. Concerning the practical contents of courses studied, the combined student group rated all courses as being at either "Little" or "Some" category, with highest rating given to "Soil Fertilization and Fertilizers" having a mean score of 3.20. The individual groups rated all courses in this area as having "Little" or "Some" level of practical contents. However, the lowest rating was given by the University of Calabar student group to "Food Processing Engineering" with a mean score of 1.25 and a rating of "Very little."

Concerning the Future emphasis level that should be given to the various selected courses in this area, the combined student group which studied the course rated all the eight courses in this area as being of a "Much" category, with the highest ranking (first position) given to "Irrigation and Drainage" and "Agricultural Machines and Workshop," each having the respective mean score of 4.33. The lowest ranking went to "Irrigation Engineering" although with a rating of "Much" but with the eighth position among all the eight courses.

Judgments of the senior students from Rivers State University of Science and Technology were fairly in agreement with the combined student group, with all courses rated at a "Much" category while judgments of senior students from the University of Calabar group indicated some major differences as four of the eight courses were rated

with a "Very Much" emphasis. Responses from the combined student group who did not study the course indicated that four of the eight courses were rated as being of "Some" future emphasis, while the highest rating went to "Soil Fertilization and Fertilizers" with a "Very Much" emphasis and a ranking of first and a mean score of 4.50. However, the "never studied course" group rated "Surveys" as having the least emphasis and in a "Some" category and a ranking of eighth position with the mean score of 2.95. But the University of Calabar "never studied course" group had slightly different responses than the combined "never studied course" student group by rating one of the eight courses as being at the "Some" level of emphasis with the mean score of 3.17, while it also agreed with the combined "never studied course" group by rating "Soil Fertilization and Fertilizers" with a "Very Much" emphasis and the mean score 4.70. The Rivers State University of Science and Technology "never studied course" group was only different with the combined "never studied course" group by rating "Soil Fertilization and Fertilizers" as having a "Much" future emphasis (See Appendix C).

Responses of instructors or teachers from the two institutions under study were tabulated and presented in Table IV. It was revealed that the combined instructors group that taught the course rated only one course, "Agricultural Machines and Workshop," as having a "Some" level of knowledge imparted to the students while all other courses in this area were rated as being in the "Much" category. The highest level of knowledge imparted was in "Soil Morphology and Erosion" with a ranking of first position, and the mean score of 4.14 while the second position went to "Soil Fertilization and Fertilizers" with the mean score of 3.88 all falling in a "Much" category. The data further

TABLE IV

KNOWLEDGE IMPARTED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF TEACHERS OF AGRICULTURE MECHANICS AND SOIL SCIENCE COURSES

Courses	RSUST; N=7							Uni Calabar; N=5							All Instructors; N=12								
	Taught							Taught							Taught								
	KG			PC		FE		KG			PC		FE		KG			PC			FE		
	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Irrigation and drainage	3	3.67	M	3.67	M	4.33	M	3	4.00	M	3.67	M	4.33	M	6	3.83	M	3	3.67	M	3	4.33	M	5
2. Irrigation engineering	1	4.00	M	4.00	M	3.00	S	2	3.50	M	3.00	S	4.00	M	3	3.67	M	5	3.33	S	7	3.67	M	8
3. Food processing engineering	3	3.67	M	3.67	M	5.00	VM	1	3.00	S	2.00	L	5.00	VM	4	3.50	M	6	3.25	S	8	5.00	VM	1
4. Surveys	1	5.00	VM	4.00	M	4.00	M	3	3.33	S	3.33	S	3.67	M	4	3.75	M	4	3.50	M	4	3.75	M	7
5. Agricultural machines and workshop	4	3.75	M	4.00	M	4.50	VM	2	2.50	S	2.50	S	4.50	VM	6	3.33	S	8	3.50	M	4	4.50	VM	3
6. Machine maintenance and safety	2	4.00	M	4.50	VM	4.50	VM	2	3.00	S	2.50	S	5.00	VM	4	3.50	M	6	3.50	M	4	4.75	VM	2
7. Soil morphology and erosion	5	3.80	M	3.80	M	4.00	M	2	5.00	VM	4.50	VM	5.00	VM	7	4.14	M	1	4.00	M	1	4.29	M	6
8. Soil fertilization and fertilizers	5	4.00	M	3.40	S	4.60	VM	3	3.67	M	3.33	S	4.00	M	8	3.88	M	2	3.83	M	2	4.38	M	4

N = Number of responses on each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N* = Only includes those students who studied and teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits of Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

revealed that, in terms of the practical contents of courses in this area, "Irrigation and Drainage" and "Food Processing Engineering" were the only ones that received the lowest ratings and rankings of "Some" category and being in the seventh and eighth positions, respectively, and their respective mean scores of 3.33 and 3.25. All the remaining six courses were in the "Much" grouping while "Soil Morphology and Erosion" and "Soil Fertilization and Fertilizers" received their respective first and second positions and the mean scores of 4.00 and 3.83, respectively. Responses of instructors from the individual institutions showed some obvious differences. All the courses were rated by the Rivers State University of Science and Technology instructors as having "Much" knowledge level imparted and only one course, "Surveys," was given the highest rating of "Very Much." But the University of Calabar instructors rated three courses in a "Much" grouping and three other courses in a "Some" category, and the highest rating of "Very Much" given to "Soil Morphology and Erosion" with a mean score of 5.00. The University of Calabar instructors gave the least rating to "Agricultural Machines and Workshop" as it was placed in a somewhat "Little" category with the mean score of 2.50. The Rivers State University of Science and Technology instructors rated six of the eight courses as having the practical contents of "Much" category, while the highest rating was given to "Machine Maintenance and Safety" with a "Very Much" grouping and a mean score of 4.50 and the least rating was given to "Soil Fertilization and Fertilizers" within a category of "Some" and a mean score of 3.40. But the University of Calabar instructors rated "Soil Morphology and Erosion" as highest with a "Very Much" practical contents and the mean score of 4.50, while "Food

Processing Engineering" was given the lowest rating of "Little" category and a mean score of 2.00. All other courses were rated as falling into a "Some" category. Both the individual and the combined instructors groups rated all courses in this areas as having either a "Very Much" or a "Much" future emphasis, with the only major difference being observed in the Rivers State University of Science and Technology instructor group as they rated "Irrigation Engineering" lowest with a "Some" emphasis level and a mean score of 3.00. Again, the responses of the combined instructors group who never taught the course, showed major different perceptions, as four of the eight courses were rated as having a "Some" level of emphasis, while the remaining four courses were rated as falling in a "Much" category. In general, the combined group of "Never Studied Course" students were in agreement with the combined group of "Never Taught Course" teachers by ranking "Soil Fertilization and Fertilizers" first, though with slight differences in the rating as the students rated the said course "Very Much" emphasis with a mean score of 4.50, while the teacher group gave a rating of "Much" emphasis with a mean score of 4.25 (See Appendix C).

Agricultural Economics, Rural Sociology and Agricultural Extension

Responses of the senior students from Rivers State University of Science and Technology and University of Calabar for various selected courses in the area, Agricultural Economics, Rural Sociology and Agricultural Extension, were presented in Table V. Judgments of this category of respondents were a little difficult to render since none of the students from the University of Calabar studied the course "Using

TABLE V

KNOWLEDGE GAINED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF STUDENTS OF AGRICULTURAL ECONOMICS, RURAL SOCIOLOGY AND AGRICULTURAL EXTENSION

Courses	RSUST; N=52							Uni Calabar; N=27							All Students; N=79							
	Studied							Studied							Studied							
	KG		PC		FE			KG		PC		FE			KG			PC			FE		
	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Rural Social Dev't. & Leadership	20	3.55	M	2.72	S	4.20	M	17	4.24	M	2.76	S	4.24	M	37	3.86	M	3	2.74	S	7	4.22	S	7
2. Nigerian Agricultural Economics	30	3.87	M	3.17	S	4.47	M	18	3.67	M	2.83	S	4.17	M	48	3.79	M	5	3.04	S	3	4.35	M	4
3. Mktg. & Agricultural Accounting	35	3.47	M	2.86	S	4.31	M	11	3.82	M	2.55	S	4.27	M	46	3.56	M	7	2.78	S	6	4.30	M	6
4. Farm Management	43	4.33	M	3.42	S	4.04	M	21	4.29	M	3.19	S	4.38	M	64	4.31	M	1	3.34	S	1	4.39	M	3
5. Agricultural Cooperatives	15	3.67	M	2.87	S	3.64	M	6	3.00	S	1.67	L	3.50	M	21	3.48	M	8	2.52	S	8	3.60	M	1
6. Statistics & Research Methods	46	3.39	S	2.82	S	4.40	M	20	4.00	M	3.35	S	4.55	VM	66	3.58	M	6	2.98	S	4	4.45	M	1
7. Using Computers in Agriculture	19	2.37	L	1.63	L	4.32	M	—	——		——		——		19	2.37	L	9	1.63	L	9	4.32	M	5
8. Agricultural Extension Planning	20	3.90	M	3.10	S	4.50	VM	21	3.71	M	2.75	S	4.33	M	41	3.80	M	4	2.92	S	5	4.41	M	2
9. Extension Teaching & Demonstration	28	4.00	M	3.56	M	4.26	M	23	3.74	M	2.96	S	3.96	M	51	3.88	M	2	3.28	S	2	4.12	M	8

N = Number of responses in each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N* = Only includes those students who studied and teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits in Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

Computers in Agriculture." However, the combined group of students who studied the course rated seven of the courses as of "Much" level with reference to knowledge gained, with the highest ranking of first position given to "Farm Management" with a mean score of 4.31. "Agricultural Cooperatives" received a rating of "Some" with a ranking of eighth position, while the lowest rating was given to "Using Computers in Agriculture" with a knowledge level of "Little," a ranking of ninth and a mean score or 2.37. But the student group showed some slight differences in their responses, as the Rivers State University of Science and Technology students rated four of the courses as being at a knowledge gained level of "Some", while the remaining five course were in the "Much" category. Also, the students from the University of Calabar rated all courses but one, as of "Much" category and the "Agricultural Cooperatives" being the lowest rated course with a "Some" grouping and a mean score of 3.00. Concerning the practical contents of courses, the combined student group rated all courses as either of a "Some" or of a "Little" category with the highest ranking of first position given to "Farm Management" and a mean score of 3.34, while the lowest ranking of ninth position was given to "Using Computers in Agriculture" having a mean score of 1.63. However, the combined student group rated all courses as having "Much" future emphasis while the Rivers State University of Science and Technology student group who studied the course rated "Agricultural Extension Planning" highest at "Very Much" grouping and a mean score of 4.50, while the highest rating was given by the University of Calabar students to "Statistics and Research Methods" with a "Very Much" rating and a mean score of 4.55. All other courses were given an emphasis level of "Much" by both groups,

while no student studied the course "Using Computers in Agriculture" in the University of Calabar.

Responses of students in the "Never Studied Course" group were also gathered concerning the future emphasis given to the various courses in this area. The combined groups of students in this category rated "Farm Management" highest with a "Very Much" category, a ranking of first and a mean score of 4.64, while the lowest rating was given to "Marketing and Agricultural Accounting" which was rated "Some" and ranked ninth with a 3.30 mean score. The individual student group, however, followed a similar pattern with the highest rating given by Rivers State University of Science and Technology students to "Statistics and Research Methods" and was placed in the "Very Much" category, while the lowest rating was given to "Marketing and Agricultural Accounting" and was placed in a "Some" emphasis grouping having a mean score of 2.94. The University of Calabar "Never Studied Course" group rated "Farm Management" highest and had placed it in "Very Much" category with a mean score of 5.00, while the lowest rating was given to "Agricultural Cooperatives" and was placed in the "Some" category with a mean score of 3.33 (See Appendix C). However, all other courses were rated as having a "Much" future emphasis level by the individual student groups.

Data in Table VI show responses of instructors from the Rivers State University of Science and Technology and the University of Calabar, in the area of Agricultural Economics, Rural Sociology and Agricultural Extension. In terms of the amount of knowledge imparted to students, the combined instructor group that taught the course rated "Agricultural Cooperatives" highest in the "Much" grouping, showing the rank of first and the mean score of 4.40. All other courses were rated

TABLE VI

KNOWLEDGE IMPARTED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF TEACHERS OF AGRICULTURAL ECONOMICS, RURAL SOCIOLOGY AND AGRICULTURAL EXTENSION COURSES

Courses	RSUST; N=7							Uni Calabar; N=5							All Instructors; N=12							
	Taught							Taught							Taught							
	KG			PC		FE		KG			PC		FE		KG			PC			FE		
	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Rural Social Dev't. & Leadership	4	4.25	M	4.00	M	4.75	VM	2	4.00	M	4.50	VM	4.00	M	6	4.17	M	7	4.17	M	1	4.50	VM	3
2. Nigerian Agricultural Economics	3	4.67	VM	4.00	M	5.00	VM	2	3.50	M	2.00	L	4.00	M	5	4.20	M	4	3.20	S	8	4.60	VM	1
3. Mktg. & Agricultural Accounting	4	3.75	M	3.00	S	4.00	M	1	3.00	S	2.00	L	4.00	M	5	3.60	M	9	2.80	S	9	4.00	M	9
4. Farm Management	5	4.60	VM	4.20	M	4.60	VM	4	3.75	M	3.00	S	4.50	VM	9	4.22	M	2	3.67	M	6	4.56	VM	2
5. Agricultural Cooperatives	4	4.25	M	4.00	M	4.25	M	1	5.00	VM	3.00	S	5.00	VM	5	4.40	M	1	3.80	M	5	4.40	M	5
6. Statistics & Research Methods	6	4.67	VM	4.33	M	4.67	VM	3	3.33	S	3.00	S	3.67	M	9	4.22	M	2	3.89	M	4	4.33	M	6
7. Using Computers in Agriculture	4	4.25	M	4.50	VM	4.50	VM	2	3.00	S	3.00	S	4.50	VM	6	3.83	M	8	4.00	M	2	4.50	VM	3
8. Agricultural Extension Planning	6	4.17	M	3.50	M	3.83	M	4	4.25	M	3.75	M	4.75	VM	10	4.20	M	4	3.60	M	7	4.20	M	8
9. Extension Teaching & Demonstration	5	4.40	M	4.20	M	4.40	M	5	4.00	M	3.60	M	4.20	M	10	4.20	M	4	3.90	M	3	4.30	M	7

N = Number of responses in each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N*= Only includes those students who studied and those teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits of Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

as having a "Much" knowledge level imparted to students. As far as the practical contents of the courses were concerned, only two courses, "Nigerian Agricultural Economics" and "Marketing and Agricultural Accounting" had a low rating of "Some" grouping and the respective mean scores and rankings of 3.20 and 2.80, and eighth and ninth respective positions. All other courses had a practical contents rating of "Much" assigned to them, with the highest ranking of first assigned to "Rural Social Development and Leadership" which had a mean score of 4.17. The individual instructor groups differed much in terms of knowledge imparted and practical contents of courses taught to students. While the Rivers State University of Science and Technology instructor group thought all courses in this area were either of a "Much" or a "Very Much" grouping with the highest mean score of 4.67 assigned to "Nigerian Agricultural Economics" and "Statistics and Research Methods," the University of Calabar instructor group rated three of these course as being of "Some" category of knowledge imparted with the highest rating of "Very Much" and a mean score of 5.00 given to "Agricultural Cooperatives." All other courses were grouped under the "Much" category. Also, the Rivers State University of Science and Technology instructor group gave the highest rating of "Very Much" with a mean score of 4.50 to "Using Computers in Agriculture," while the lowest rating of "Some" and a mean score of 3.00 were given to "Marketing and Agricultural Accounting." But the University of Calabar instructor group had a different view of the practical contents of courses offered in this area as they assigned the highest rating of "Very Much" and a mean score of 4.50 to "Rural Development and Leadership" and a "Much" category to two other courses, namely, "Agricultural Extension Planning"

and "Extension Teaching and Demonstration." All other course were rated as of "Some" or of "Little" category of practical contents, with the lowest mean score of 2.00 given to "Nigerian Agricultural Economics" and "Marketing and Agricultural Accounting." The combined group of instructors who taught the course rated all courses in this area as having either a "Much" or a "Very Much" future emphasis placed on them, with the highest rating of "Very Much" and a mean score of 4.60 and a ranking of first assigned to "Nigerian Agricultural Economics" while the lowest score of 4.00 and a ranking of ninth was given to "Marketing and Agricultural Accounting." The individual instructor groups were apparently not different than the combined group as they rated all courses as being of a "Much" or of a "Very Much" category of future emphasis level. Judgments of the combined group of the instructor "Never Taught Course" category were also assessed, and the highest rating of "Very Much," a rank of first and a mean score of 4.67 were given to "Statistics and Research Methods," while two courses, namely, "Rural Social Development" and "Marketing and Agricultural Accounting" were rated as of "Some" grouping with the respective mean scores of 3.17 and 3.29 (See Appendix C). Generally, the only area the combined student and instructor groups were in agreement was where both "Never Studied Course" and "Never Taught Course" groups gave "Agricultural Extension Planning" a rating of "Much" and a ranking of sixth position. All other ratings and rankings were slightly different for both groups.

Animal Production and Food Technology

Responses of the senior students in the two institutions under study were tabulated in Table VII. Only two courses, "Animal

Physiology" and "Animal Breeding," were selected in this area, and as such the computations here were less complicated. The combined groups of students who studied the course rated these courses as being of a "Some" level of knowledge gained, with the ranking of first given to "Animal Breeding" having a mean score of 3.46. On the amount of practical contents of the course, the combined student group rated all the two courses in a "Some" category, while a ranking of first was given to "Animal Physiology" with a mean score of 2.83. There were some differences in the responses of the individual student groups as the Rivers State University of Science and Technology students who studied the course rated all the two courses as being of a "Some" level of knowledge gained, while University of Calabar student group voted all courses as of a "Much" knowledge level. Again, the Rivers State University of Science and Technology students rated all the two courses in this area as of practical contents grouping of "Some," while the University of Calabar student group rated "Animal Physiology" in a "Some" category and "Animal Breeding" in a "Little" grouping with the mean score of 2.33. In terms of the future emphasis for these courses, the combined student group who studied the course rated all the two courses as in a "Much" grouping with a ranking of first given to "Animal Breeding" having a mean score of 4.30. However, the individual student groups who studied the course were in agreement with both the combined group and each other by rating all the two courses in this area as having a "Much" future emphasis level. Ratings of the combined student group who never studied the course, as regards future emphasis for these courses indicated some disagreements with the individual student groups as all across the two courses a "Some" category was given to "Animal

TABLE VII

KNOWLEDGE GAINED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF STUDENTS OF ANIMAL PRODUCTION AND FOOD TECHNOLOGY COURSES

Courses	RSUST; N=52							Uni Calabar; N=27							All Students; N=79								
	Studied							Studied							Studied								
	KG			PC		FE		KG		PC					KG			PC			FE		
	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Animal Physiology	28	3.29	S	2.79	S	3.79	M	7	4.00	M	3.00	S	4.43	M	35	3.43	S	2	2.83	S	1	3.91	M	2
2. Animal Breeding	29	3.34	S	2.69	S	4.30	M	6	4.00	M	2.33	L	4.33	M	35	3.46	S	1	2.63	S	2	4.30	M	1

N = Number of responses in each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N* = Only includes those students who studied and those teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTES: Limits in Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

Physiology," while a "Much" grouping was given to "Animal Breeding" (See Appendix C).

Responses of instructors in the area, Animal Production and Food Technology, were tabulated in Table VIII. It was shown that both the combined group and the Rivers State University of Science and Technology instructor group who taught the course were in agreement by rating all the two courses in the "Much" category, in terms of the knowledge level imparted, while the University of Calabar instructor group who taught the course rated all the two courses in this areas as being in a knowledge grouping of "Some" category. For the practical contents aspects, the combined group rated the two courses as of a grouping of "Some" level, while the Rivers State University of Science and Technology instructor group rated the two courses in the "Much" grouping. But the University of Calabar instructors were greatly different when they rated "Animal Physiology" as having a practical contents level of "Little" with a mean score of 1.50 and "Animal Breeding" in a category of "Very Little" with a mean score of 1.00. Concerning the future emphasis for these two courses, the combined instructor group was in agreement with the individual institution groups by rating all the two courses in a "Much" category with a ranking of first given by the combined group to "Animal Breeding" with a mean score of 4.33, which made the instructors to be in agreement with the combined student group who studied the course, in terms of the ranking of those two courses. However, judgments of the combined group of instructors who never taught the course were also gathered and were seen to fall below the judgments of the combined instructors group who taught the course by rating "Animal Physiology" in a "Some" grouping with a mean

TABLE VIII

KNOWLEDGE IMPARTED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF INSTRUCTORS OF ANIMAL PRODUCTION AND FOOD TECHNOLOGY COURSES

Courses	RSUST; N=7							Uni Calabar; N=5							All Instructors; N=12							
	Taught							Taught							Taught							
	KG			PC		FE		KG			PC		FE		KG			PC			FE		
	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Animal Physiology	5	4.20	M	4.00	M	4.40	M	2	3.00	S	1.50	L	4.00	M	7	3.86	M	2	3.29	S	2	4.29	M	2
2. Animal Breeding	5	4.20	M	3.80	M	4.04	M	1	3.00	S	1.00	VL	4.00	M	6	4.00	M	1	3.33	S	1	4.33	M	1

N = Number of responses on each category

KG = Knowledge Gained

PC = Practical Content

FE = Future Emphasis

RSUST = Rivers State University of Science and and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N* = Only includes those students who studied and teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits in Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

score of 3.40 and "Animal Breeding" in a "Much" category with a mean score of 4.50. Generally, the combined student and instructor groups who studied or taught the course were in agreement when they rated all the courses as having the practical contents level of "Some" and the future emphasis level of "Much" category. Also, the student and instructor groups who never studied or taught the course were in agreement when they all rated "Animal Physiology" and "Animal Breeding" to have the future emphasis levels of "Some" and "Much", respectively (See Appendix C).

Plant Production and Protection

Responses of the senior students and instructors or teachers in the area of Plant Production and Protection were shown in Tables IX and X. From all indications, the highest rating and ranking in terms of the knowledge level, of course, were given by both combined student and instructor groups who studied or taught the course, to "Fruit Production." The students rated this course in a "Much" category with a ranking of first and a mean score of 4.11, while the combined instructor group rated this course in the "Very Much" grouping with a ranking of first and a mean score of 4.50. In terms of the practical contents, of course, the combined student group ranked "Field Crops" as first with a rating of "Some" and a mean score of 3.36, while the combined instructor group ranked "Plant Breeding and Genetics" as first with a mean score of 4.25 and a rating of "Much." For the future emphasis in these courses, the combined student group rated all courses in a "Much" grouping with the ranking of first given to "Vegetables," having a rating of "Much" and a mean score of 4.46. All other courses were rated by the students

TABLE IX

KNOWLEDGE GAINED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF STUDENTS OF PLANT PRODUCTION AND PROTECTION COURSES

Courses	RSUST; N=52							Uni Calabar; N=27							All Students; N=79							
	Studied							Studied							Studied							
	KG		PC		FE			KG		PC					KG			PC			FE		
	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Nurseries and Floriculture	14	3.50	M	2.86	S	3.86	M	4	3.75	M	2.25	L	3.50	M	18	3.56	M	10	2.72	S	12	3.78	M	13
2. Plant Nutrition	25	3.72	M	3.00	S	4.08	M	14	3.86	M	2.86	S	3.86	M	39	3.77	M	6	2.95	S	8	4.00	M	9
3. Plant Physiology	31	3.77	M	3.26	S	4.10	M	23	3.52	M	2.82	S	4.00	M	54	3.67	M	8	3.08	S	6	4.06	M	7
4. Plant Pathology	22	3.77	M	2.91	S	4.23	M	23	4.13	M	3.39	S	3.96	M	45	3.96	M	3	3.16	S	4	4.09	M	5
5. Field Crops	37	3.65	M	3.38	S	4.30	M	22	4.09	M	3.32	S	4.36	M	59	3.81	M	4	3.36	S	1	4.32	M	2
6. Vegetables	27	3.89	M	2.85	S	4.41	M	12	4.45	M	3.42	S	4.58	VM	39	4.05	M	2	3.03	S	7	4.46	M	1
7. Fruit Production	21	3.90	M	3.20	S	4.20	M	6	4.83	VM	3.17	S	4.17	M	27	4.11	M	1	3.19	S	3	4.19	M	3
8. Plant Breeding and Genetics	22	3.50	M	2.91	S	4.14	M	8	3.13	S	1.75	L	3.88	M	30	3.40	S	13	2.60	S	13	4.07	M	6
9. Insect Physiology	15	3.40	S	3.47	S	4.36	M	11	3.09	S	3.09	S	3.64	M	26	3.27	S	14	3.31	S	2	4.04	M	8
10. Agricultural Microbiology	27	3.44	S	2.41	L	3.96	M	16	4.00	M	3.44	S	4.00	M	43	3.65	M	9	2.79	S	11	3.98	M	11
11. Insects and Pest Control	32	3.69	M	2.75	S	3.97	M	23	3.70	M	2.96	S	3.96	M	55	3.69	M	7	2.84	S	10	3.96	M	12
12. Forage and Forestry	14	3.50	M	2.50	S	4.14	M	2	3.50	M	2.50	S	4.00	M	16	3.50	M	12	2.50	S	14	4.13	M	4
13. Useful Insects	8	3.38	S	2.50	S	3.63	M	8	3.75	M	3.38	S	3.63	M	16	3.56	M	10	2.94	S	9	3.63	M	14
14. Toxicology	10	3.50	M	2.50	S	3.67	M	7	2.71	S	2.17	L	3.43	S	17	3.18	S	15	2.38	L	15	3.56	M	15
15. Agricultural Landscaping	7	3.71	M	3.43	S	4.14	M	2	4.00	M	2.00	L	3.50	M	9	3.78	M	5	3.11	S	5	4.00	M	9

N = Number of responses in each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N* = Only includes those students who studied and those teachers who taught the courses. Responses from students not studying. and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits on Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

TABLE X

KNOWLEDGE IMPARTED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF INSTRUCTORS OF PLANT PRODUCTION AND PROTECTION COURSES

Courses	RSUST; N=7							Uni Calabar; N=5							All Instructors; N=12							
	Taught							Taught							Taught							
	KG			PC		FE		KG			PC		FE		KG			PC			FE		
	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Nurseries and Floriculture	1	4.00	M	4.00	M	4.00	M	2	4.00	L	3.50	M	4.50	VM	13	4.00	M	3	4.00	M	2	4.00	M	6
2. Plant Nutrition	4	4.25	M	3.75	M	3.75	M	2	4.50	VM	4.50	VL	4.50	VM	6	4.33	M	2	4.00	M	2	4.00	M	6
3. Plant Physiology	4	3.67	M	3.25	S	3.50	M	4	3.00	S	2.50	S	4.00	M	8	3.29	S	13	2.88	S	13	3.75	M	12
4. Plant Pathology	3	3.67	M	3.33	S	3.33	S	3	3.33	S	3.00	S	4.00	M	6	3.50	M	9	3.17	S	11	3.67	M	13
5. Field Crops	4	3.50	M	3.75	M	4.00	M	3	4.00	M	3.33	S	3.67	M	7	3.71	M	8	3.57	M	8	3.86	M	10
6. Vegetables	3	3.67	M	3.67	M	4.33	M	1	5.00	VM	5.00	VM	5.00	VM	4	4.00	M	3	4.00	M	2	4.50	VM	3
7. Fruit Production	2	4.00	M	3.80	M	5.00	VM	2	5.00	VM	4.20	M	5.00	VM	4	4.50	VM	1	4.00	M	2	5.00	VM	1
8. Plant Breeding and Genetics	3	4.33	M	4.67	VM	4.67	VM	1	3.00	S	3.00	S	3.00	S	4	4.00	M	3	4.25	L	1	4.25	M	4
9. Insect Physiology	3	3.67	M	3.67	M	4.67	VM	1	3.00	S	2.00	L	2.00	L	4	3.50	M	9	3.25	S	10	4.00	M	6
10. Agricultural Microbiology	5	3.20	S	3.40	S	4.20	M	1	3.00	S	2.00	L	3.00	S	6	3.17	S	14	3.17	S	11	4.00	M	6
11. Insects and Pest Control	4	4.50	VM	3.75	M	4.00	M	1	2.00	L	2.00	L	3.00	S	5	4.00	M	3	3.40	S	9	3.80	M	11
12. Forage and Forestry	3	3.33	S	2.67	S	3.67	M	2	3.20	S	2.50	S	3.71	M	5	3.33	S	12	2.67	S	14	3.67	M	13
13. Useful Insects	2	3.50	M	3.50	M	4.00	M	1	2.00	L	1.00	VL	3.00	S	3	3.00	S	15	2.67	S	14	3.07	S	15
14. Toxicology	5	3.40	S	3.80	M	4.00	M	1	4.00	M	4.00	M	5.00	VM	6	3.50	M	9	3.83	S	7	4.17	M	5
15. Agricultural Landscaping	2	3.50	M	3.50	M	4.50	VM	1	5.00	VM	5.00	VM	5.00	VM	3	4.00	M	3	4.00	M	2	4.67	VM	2

N = Number of responses in each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N* = Only includes those students who studied and teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTES: Limits on Mean Scores

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

as having a "Much" grouping. In terms of future emphasis the instructor group gave the highest rating of "Very Much" and a ranking of first to "Fruit Production" with a mean score of 5.00. The lowest ranking was given by the student group, in terms of practical contents, to "Toxicology" as was placed in the fifteenth position with a rating of "Some" and a mean score of 3.18, while the instructor group ranked "Useful Insects" in the fifteenth position with a rating of "Some" and a mean score of 3.00. For the practical contents of course, the student group ranked "Toxicology" in the fifteenth position with a mean score of 2.38 and a rating of "Little", while the instructor group ranked "Forage and Forestry" and "Useful Insects" lowest with a rating of "Some" and a mean score of 2.67 for each. For the future emphasis aspect of these judgments, the student group ranked "Toxicology" in the fifteenth position, being the lowest with the rating of "Much" and a mean score of 3.56, while the instructor group ranked "Useful Insects" fifteenth with a rating of "Some" and a mean score of 3.07. Judgments of the combined student and instructor groups who never studied or taught the course indicated that both groups tended to give a "Some" level of emphasis to most of the courses in this area (See Appendix C). While the student group ranked "Fruit Production" first with a "Much" emphasis and a mean score of 4.46, the instructor "Never Taught Course" group ranked "Vegetables" first with a rating of "Much" and a mean score of 4.14. Generally speaking, the individual student and instructor groups were much different than the combined groups by rating many of the courses in this area as having "Little" and "Very Little" practical contents while these low ratings were given mostly by students and instructors from the University of Calabar students to "Plant Breeding and Genetics" with a

rating of "Little" and a mean score of 1.75, while the lowest rating was given by the University of Calabar instructors to "Useful Insects" with "Very Little" practical contents and a mean score of 1.00.

Student Industrial Work Experience (SIWE)

Responses of the senior students and instructors or teachers of the Rivers State University of Science and Technology and the University of Calabar in the area, Student Industrial Work Experience (SIWE), were illustrated in Tables XI and XII, respectively. The combined student group who studied the course ranked "Poultry Production" first with a ranking of "Much" in terms of level of knowledge gained and the practical contents of course with a mean score of 4.06 for knowledge gained and 3.72 for the practical contents in this course. For the future emphasis "Agricultural Economics" was ranked first with a rating of "Much" and a mean score of 4.44. The lowest rank of tenth was given to "Food Technology and Dairy Science" in terms of the knowledge gained, practical contents, and future emphasis for the course. The individual student groups differed slightly as many of the courses in the two groups fell in the "Much" category in terms of knowledge gained; in the "Some" category in terms of the practical contents of courses, while all the courses were placed in the "Much" category by the Rivers State University of Science and Technology students in terms of future emphasis, whereas the University of Calabar students placed courses either in the "Much" or "Very Much" category with most of the courses in the "Much" grouping in terms of the future emphasis that should be placed for the courses in this area. But the "Never Studied Course" combined group rated most courses in this area in terms of their future

TABLE XI

KNOWLEDGE GAINED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF STUDENTS OF STUDENT INDUSTRIAL WORK EXPERIENCE (SIWE) COURSES

Courses	RSUST; N=52							Uni Calabar; N=27							All Students; N=79					
	Studied							Studied							Studied					
		KG		PC		FE			KG		PC		FE			KG		PC		FE	
	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	Mean	C	Mean	C
1. Agricultural Mechanics	38	3.42	S	3.14	S	3.97	M	15	3.47	M	3.00	S	4.27	M	51	3.43	S	3.10	S	4.06	M
2. Agricultural Economics	46	4.04	M	3.54	M	4.41	M	20	3.95	M	3.10	S	4.50	VM	66	4.02	M	3.41	S	4.44	M
3. Extension Planning	22	3.55	M	2.95	S	4.32	M	21	3.67	M	3.05	S	4.43	M	43	3.60	M	3.00	S	4.37	M
4. Extension Teaching & Demonstration	24	3.67	M	3.42	S	4.33	M	22	3.86	M	3.27	S	4.14	M	46	3.76	M	3.35	S	4.24	M
5. Plant Production and Protection	42	3.98	M	3.50	M	4.48	M	21	4.14	M	3.48	S	4.19	M	63	4.03	M	3.49	S	4.38	M
6. Food Technology & Dairy Science	25	3.14	S	2.76	S	3.93	M	5	5.00	VM	3.00	S	5.00	VM	30	3.20	S	2.77	S	3.97	M
7. Animal Production	44	3.61	M	3.11	S	4.19	M	17	3.71	M	3.06	S	4.18	M	61	3.64	M	3.10	S	4.18	M
8. Soil Science	38	3.74	M	3.45	S	4.21	M	23	3.96	M	3.57	M	4.22	M	61	3.82	M	3.49	S	4.21	M
9. Poultry Production	45	3.87	M	3.40	S	4.29	M	22	4.45	M	4.36	M	4.50	VM	67	4.06	M	3.72	S	4.36	M
10. Adult Education & Adoption of New Practices	11	3.55	M	2.82	S	4.18	M	8	4.13	M	2.88	S	4.13	M	19	3.79	M	2.84	S	4.16	M

N = Number of responses in each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N* = Only includes those students who studied and teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits in Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

TABLE XII

KNOWLEDGE IMPARTED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF TEACHERS OF STUDENT INDUSTRIAL WORK EXPERIENCE (SIWE) COURSES

Courses	RSUST; N=7							Uni Calabar; N=5							All Instructors; N=12							
	Taught							Taught							Taught							
	KG			PC		FE		KG		PC		FE			KG			PC			FE		
	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Agricultural Mechanics	3	5.00	VM	5.00	VM	5.00	VM	1	5.00	VM	5.00	VM	5.00	VM	4	5.00	VM	1	5.00	VM	1	5.00	VM	1
2. Agricultural Economics	4	4.00	M	3.50	M	4.25	M	2	4.00	M	2.50	S	4.00	M	6	4.00	M	8	3.17	S	10	4.17	M	9
3. Extension Planning	3	5.00	VM	4.67	VM	4.67	VM	3	4.33	M	4.00	M	5.00	VM	6	4.67	VM	2	4.33	M	2	4.83	VM	2
4. Extension Teaching & Demonstration	4	4.25	M	4.25	M	4.75	VM	4	3.75	M	3.25	S	4.75	VM	8	4.00	M	8	3.75	M	8	4.75	VM	4
5. Plant Production and Protection	3	3.67	M	4.00	M	3.67	M	2	4.50	VM	4.50	VM	5.00	VM	5	4.00	M	8	4.20	M	3	4.20	M	8
6. Food Technology & Dairy Science	6	4.67	VM	4.20	M	4.60	VM	1	3.00	S	3.00	S	4.00	M	7	4.43	M	3	4.00	M	4	4.50	VM	6
7. Animal Production	5	4.60	VM	4.00	M	4.00	M	1	2.00	L	2.00	L	5.00	VM	6	4.17	M	7	3.67	M	9	4.17	M	10
8. Soil Science	3	3.67	M	3.35	S	4.00	M	2	5.00	VM	5.00	VM	5.00	VM	5	4.20	M	6	4.00	M	4	4.40	M	7
9. Poultry Production	5	4.20	M	4.00	M	4.80	VM	1	5.00	VM	4.00	M	5.00	VM	6	4.33	M	4	4.00	M	4	4.83	VM	2
10. Adult Education & Adoption of New Practices	3	4.33	M	4.00	M	4.67	VM	1	3.00	S	2.00	L	4.00	M	3	4.33	M	4	4.00	M	4	4.67	VM	5

N = Number of responses in each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N*= Only includes those students who studied and those teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits in Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

emphasis as being in the "Much" grouping, with the highest rank of first given to "Poultry Production" with a rating of "Very Much" and a mean score of 4.58, while the lowest rank of tenth was given to "Soil Science" with a rating of "Some" and a mean score of 3.13 (See Appendix C). Table XII was shown the combined group of instructors who taught courses giving the highest rating of "Very Much" and ranking of first to "Agricultural Mechanics" in terms of knowledge gained, practical contents and future emphasis of course, with a mean score of 5.00 for all the three aspects of these judgments. However, most courses came under the judgment category of "Much" with many of the courses being assessed under the "Very Much" future emphasis level by the combined instructors group. Again, assessment of the responses of the combined instructor group that never taught the course indicated that, all courses had either a "Very Much" or a "Much" future emphasis, the highest rating of "Very Much" with a ranking of first and a mean score of 4.75 given to "Extension Teaching and Demonstration" while the lowest emphasis consisting of a ranking of tenth with a rating of "Much" and a mean score of 3.50 was given to "Soil Science." Generally, the students differed with the instructors in that they (students) rated most courses in this area as having practical contents of "Some" grouping, while the instructors saw most courses in this area as having a "Much" level of practical contents. Another difference was that the students saw most courses as having a "Much" future emphasis level, while the instructors

saw most courses in this area as being in a "Very Much" category of future emphasis.

General Courses

Data regarding the responses of the senior students in the area of General Courses, were presented in Table XIII. The combined student group who studied the course rated all but two courses, as having a "Much" level of knowledge gained. The highest ranked course was "Biochemistry" being first with a mean score of 3.90 but has a low rating of "Some" in terms of its practical contents with a rank of eighth and a mean score of 2.71. The two lowest rated courses in the sphere of knowledge gained were "Local Culture and Tradition" and "Geology," all in the "Some" grouping with the rankings of eighth and ninth, and the mean scores of 3.29 and 3.26, respectively. The highest rated course in terms of its practical contents was "General Chemistry" placed in the "Some" category with a mean score of 3.32. The lowest rated course was "Local Culture and Tradition" with a ranking of ninth, a rating of "Little" and a mean score of 2.32. All other courses were rated in the "Some" category. While the Rivers State University of Science and Technology student group agreed wholly with the combined student group by rating "Geology" and "Local Culture and Tradition in a "Some" category, the University of Calabar student group agreed partly by rating "Geology and "Calculus" in a "Some" grouping. All other courses were rated in a "Much" level of knowledge gained. Most courses were rated in a "Some" category by both groups, in terms of their practical contents, and the lowest rated course was "Local Culture and Tradition" with a rating of "Little" and a mean score of 2.43. Concerning the

TABLE XIII

KNOWLEDGE GAINED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF STUDENTS OF GENERAL COURSES

Courses	RSUST; N=52							Uni Calabar; N=27							All Students; N=79								
	Studied							Studied							Studied								
	KG			PC		FE		KG			PC		FE		KG			PC			FE		
	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Biochemistry	19	3.89	M	2.68	S	3.79	M	2	4.00	M	3.00	S	4.00	M	21	3.90	M	1	2.71	S	8	3.81	M	5
2. Organic Chemistry	27	3.78	M	3.07	S	3.81	M	24	3.54	M	3.35	S	3.79	M	51	3.67	M	3	3.20	S	3	3.80	M	6
3. General Zoology	24	3.63	M	2.96	S	3.58	M	10	4.10	M	3.44	S	4.30	M	34	3.76	M	2	3.09	S	4	3.79	M	7
4. Geology	19	3.32	S	2.78	S	3.79	M	4	3.00	S	2.75	S	3.50	M	23	3.26	S	9	2.77	S	7	3.74	M	8
5. Mathematics	51	3.59	M	2.86	S	4.04	M	27	3.63	M	3.09	S	4.11	M	78	3.60	M	6	2.93	S	6	4.06	M	2
6. Calculus	44	3.57	M	2.74	S	3.64	M	12	3.36	S	2.91	S	3.83	M	56	3.53	M	7	2.78	S	6	3.68	M	9
7. Physics	50	3.60	M	3.10	S	3.82	M	26	3.65	M	3.54	M	3.85	M	76	3.62	M	5	3.25	S	2	3.83	M	4
8. General Chemistry	51	3.75	M	3.27	S	3.88	M	24	3.50	M	3.43	S	4.00	M	75	3.67	M	3	3.32	S	1	3.92	M	3
9. Local Culture and Traditions	15	3.07	S	2.27	L	4.00	M	7	3.71	M	2.43	L	4.71	VM	22	3.29	S	8	2.32	L	9	4.23	M	1

N = Number of responses in each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N*= Only includes those students who studied and those teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits on Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

future emphasis for these courses, the combined group who studied the course rated all courses as falling in the "Much" category, with the highest rank of first given to "Local Culture and Tradition" which scored 4.23. The judgment of the combined student group who never studied the course was hard to make since none of these students in these category responded to "Mathematics." However, most courses had a rating of "Some" and the highest rating was given to "Local Culture and Tradition," which was in the "Very Much" future emphasis category with a ranking of first and a mean score of 4.64. The lowest rating was given to "Geology" with a rating of "Little" and a ranking of eighth.

Data in Table XIV were shown the responses of instructors or teachers in the Rivers State University of Science and Technology and the University of Calabar. The combined instructor group who taught the course rated "Local Culture and Tradition" highest in terms of the knowledge level imparted, practical contents of the course and the future emphasis placed for the course. The students, however, ranked this course in the eighth position for knowledge gained, ninth position for the practical contents, and first position for the future emphasis, which is their only area of agreement with the ratings of the instructors. The instructors ranked "Physics" in the ninth position which was the lowest, in terms of the knowledge imparted to students, being within the "Little" category and a mean score of 2.00, which was also ranked lowest (ninth) for the practical contents of the course, with a mean score of 1.67. For the future emphasis, all other courses were placed in the "Much" category. The only difference in the individual instructor groups was that the University of Calabar instructors rated more than half of the courses in this area, in terms of their

TABLE XIV

KNOWLEDGE GAINED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF INSTRUCTORS ON GENERAL COURSES

Courses	RSUST; N=7							Uni Calabar; N=5							All Instructors; N=12								
	Taught							Taught							Taught								
	KG			PC		FE		KG		PC		FE			KG			PC			FE		
	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	Mean	C	Mean	C	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Biochemistry	5	4.00	M	3.80	M	3.40	S	2	4.00	M	3.50	M	4.50	VM	7	4.00	M	2	3.71	M	3	3.71	M	7
2. Organic Chemistry	6	3.67	M	3.33	S	3.83	M	3	3.33	S	2.67	S	4.00	M	9	3.56	M	5	3.11	S	7	3.89	M	5
3. General Zoology	6	3.50	M	3.50	M	4.00	M	2	3.50	M	2.50	S	3.50	M	8	3.50	M	6	3.25	S	5	3.88	M	6
4. Geology	1	5.00	VM	4.00	M	4.00	M	2	2.50	S	2.00	L	3.50	M	3	3.33	S	8	2.67	S	8	3.67	M	8
5. Mathematics	6	4.00	M	3.67	M	4.17	M	3	3.33	S	3.33	S	4.00	M	9	3.78	M	4	3.56	M	4	4.11	M	3
6. Calculus	4	3.75	M	3.50	M	3.75	M	1	2.00	L	2.00	L	5.00	VM	5	3.40	S	7	3.20	S	6	4.00	M	4
7. Physics	5	3.40	S	3.60	S	3.60	M	2	3.50	M	3.50	M	4.50	VM	3	2.00	L	9	1.67	L	9	3.67	M	8
8. General Chemistry	6	4.33	M	4.00	M	4.33	M	2	3.00	S	3.00	S	4.50	VM	8	4.00	M	2	3.75	M	2	4.38	M	2
9. Local Culture and Traditions	4	4.50	VM	4.50	VM	5.00	VM	1	5.00	VM	5.00	VM	5.00	VM	5	4.60	VM	1	4.60	VM	1	5.00	VM	1

N = Number of responses in each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N*= Only includes those students who studied and those teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits on Mean Scores

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

future emphasis in the "Very Much" category. However, the combined "Never Taught Course" instructor group rated five of the nine courses in this area as having the future emphasis level of "Some" grouping, while the remaining four courses were grouped in the "Much" category (See Appendix C). "Mathematics" was ranked first with the mean score of 4.00, while "Calculus" was ranked ninth with a mean score of 2.57. Generally, the combined instructor group that taught the course tended to agree with the combined student group that studied the course by ranking "Local Culture and Tradition" first in terms of its future emphasis in the curriculum. Again, the individual instructor groups rated the above course in the "Very Much" grouping in terms of its knowledge level and practical contents, while the student group rated this course in the "Some" category in terms of its knowledge level and in the "Little" grouping for its practical contents.

Recommended Future Emphasis of Selected Factors, Items, or Procedures in Developing Agriculture Curricula

Responses were received from senior students in the Rivers State University of Science and Technology and the University of Calabar concerning the recommended future emphasis of selected factors, items, or procedures in developing and implementing curricula in agriculture. Data for judgments in this area were shown in Table XV. The combined student group gave the highest rating of "Very Much" to item number 5, which is "Securing evidence that the teaching faculty is strongly committed to exerting a special effort to provide effective training for

professional agriculturists," with a rank of first and a mean score of 4.54. The data further revealed that all other factors, items, or procedures received a "Much" emphasis level, while the lowest ranking of ninth was given to item number 2, which is "Giving due study and consideration to culture and tradition as these have affected teaching, learning and adoption of agricultural practices" with a mean score of 3.58, but still in the "Much" emphasis grouping, according to the absolute limits scale as shown in Table II. However, the individual student groups were a little different in their responses to the factors, items or procedures in this area. While the Rivers State University of Science and Technology students rated all items in this area as having a "Much" level of future emphasis in curriculum development but with the highest score of 4.46 given to item number 5 in the questionnaire, which is "Securing evidence that the teaching faculty is strongly committed to exerting a special effort to provide effective training for professional agriculturists," the University of Calabar students followed similar response patterns of the combined student group by rating item number 5, which is "Securing evidence that the teaching faculty is strongly committed to exerting a special effort to provide effective training for professional agriculturists" highest, and in a "Very Much" grouping with a mean score of 4.70. All other factors, items or procedures were rated "Much" with the lowest mean score of 3.56 given to item number 2, which is "Giving due study and consideration to culture and tradition as these have affected teaching, learning, and adoption of agricultural practices." The lowest mean score of 3.60 was also given to the above number 2 item by the Rivers State University of Science and Technology student group which made the individual groups to

TABLE XV

FUTURE EMPHASIS PERCEPTIONS OF SENIOR STUDENTS ON SELECTED FACTORS, ITEMS OR PROCEDURES IN DEVELOPING AND IMPLEMENTING CURRICULA IN AGRICULTURE

Factors, Items of Procedures	RSUST; N=52		Uni Calabar; N=27		All Students; N=79		
	Mean	C	Mean	C	Mean	C	Rank
1. Securing involvement of the College of Agriculture and the agricultural students in determining their needs, interests and aspirations	4.23	M	4.19	M	4.22	M	6
2. Giving due study and consideration to culture and tradition as these have affected teaching, learning and adoption of agricultural practices	3.60	M	3.56	M	3.58	M	9
3. Securing evidence that institutional administrators are willing to place emphasis upon agricultural research, development and implementation of indigenous agriculture	4.33	M	4.37	M	4.34	M	4
4. Securing evidence that institutional administrators attempt to give high priority to the allocation of resources to programs preparing professionals in agriculture	4.08	M	4.04	M	4.06	M	7
5. Securing evidence that the teaching faculty is strongly committed to exerting a special effort to provide effective training for professional agriculturists	4.46	M	4.70	VM	4.54	VM	1
6. Securing involvement of graduates now serving in agricultural positions	4.31	M	4.22	M	4.28	M	5
7. Assessment of the extent of cooperative effort and involvement between administration and teaching faculty of the University, Ministry of Agriculture and agricultural agencies and organizations in agricultural development	4.44	M	4.37	M	4.42	M	2
8. Assessment of performance of graduates on the job	3.94	M	4.30	M	4.06	M	7
9. Securing the continuous joint evaluation of the agricultural programs between students and the teaching faculty of the University	4.37	M	4.41	M	4.38	M	3

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

Rating Symbols:

VM = Very Much

M = Much

S = Some

L = Little

VL = Very Little

C = Category

agree with the combined student group. Generally, all groups rated all the selected factors, items or procedures for developing the curriculum as either "Very Much" or "Much".

Data from the responses of the instructors or teachers from the Rivers State University of Science and Technology and the University of Calabar were presented in Table XVI. The combined instructor group, like the combined student group, gave the highest rating of "Very Much" to item number 5, which is "Securing evidence that the teaching faculty is strongly committed to exerting a special effort to provide effective teaching for professional agriculturists" and with a mean score of 4.55 and a ranking of first. The combined teacher group also agreed with the student group by rating item number 2 on the questionnaire, lowest and in a "Much" grouping with a mean score of 4.00 and a ranking of ninth. A further similarity with the student group indicated that all other items were rated "Much" by the combined instructor group, in terms of their future emphasis in developing and implementing agricultural curricula. Slight differences were observed in the individual instructor group's responses, as the Rivers State University of Science and Technology instructor group rated four of the nine items "Very Much," including item number 5, which was ranked highest by the combined instructor group. Item number 2, which is "Giving due study and consideration to culture and tradition as these have affected teaching, learning and adoption of agricultural practices," had the lowest mean score of 3.67, though still rated in a "Much" category. But the University of Calabar instructor group gave the highest rating of "Very Much" to number 9 item on the questionnaire, which is "Securing the continuous joint evaluation of the agricultural programs between

TABLE XVI

FUTURE EMPHASIS PERCEPTIONS OF INSTRUCTORS ON SELECTED FACTORS, ITEMS OR PROCEDURES IN DEVELOPING AND IMPLEMENTING CURRICULA IN AGRICULTURE

Factors, Items of Procedures	RSUST; N=7		Uni Calabar; N=5		All Instructors; N=12		
	Mean	C	Mean	C	Mean	C	Rank
1. Securing involvement of the College of Agriculture and the agricultural students in determining their needs, interests and aspirations	4.50	VM	4.20	M	4.36	M	3
2. Giving due study and consideration to culture and tradition as these have affected teaching, learning and adoption of agricultural practices	3.67	M	4.40	M	4.00	M	9
3. Securing evidence that institutional administrators are willing to place emphasis upon agricultural research, development and implementation of indigenous agriculture	4.83	VM	4.00	M	4.45	M	2
4. Securing evidence that institutional administrators attempt to give high priority to the allocation of resources to programs preparing professionals in agriculture	4.17	M	4.00	M	4.09	M	8
5. Securing evidence that the teaching faculty is strongly committed to exerting a special effort to provide effective training for professional agriculturists	4.67	VM	4.40	M	4.55	VM	1
6. Securing involvement of graduates now serving in agricultural positions	4.50	VM	4.00	M	4.27	M	4
7. Assessment of the extent of cooperative effort and involvement between administration and teaching faculty of the University, Ministry of Agriculture and agricultural agencies and organizations in agricultural development	4.17	M	4.20	M	4.18	M	6
8. Assessment of performance of graduates on the job	4.17	M	4.40	M	4.27	M	4
9. Securing the continuous joint evaluation of the agricultural programs between students and the teaching faculty of the University	3.86	M	4.60	VM	4.17	M	7

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

Rating Symbols:

VM = Very Much

M = Much

S = Some

L = Little

VL = Very Little

C = Category

students and the teaching faculty of the university," and with a mean score of 4.60 while all other items on the questionnaire, were rated in the grouping of "Much" in terms of their future emphasis in developing the curriculum. Generally speaking, both the student and the instructor groups rated all factors, items or procedures in this area as having either a "Very Much" or a "Much" level of emphasis with most of the items in a "Much" category.

Other Suggested Courses That Should Be Included in the Curriculum

Responses of the Rivers State University of Science and Technology and University of Calabar students to the items in the questionnaire which solicited their opinions regarding other additional courses that should be included in the curriculum were presented in Table XVII. A total of 31 (59.62 percent) of the Rivers State University of Science and Technology students responded, while 13 (48.15 percent) students from the University of Calabar responded in this area. A total of 37 courses were suggested by both student groups, although students from the University of Calabar rarely responded to most of the suggested courses. For ease of interpretation, the data were divided into three sections, namely, agricultural courses, agriculture-related courses, and agriculture-related and other courses. Equally, the number of responses, the percentage of response, and appropriate rankings were determined for the various listed courses in the two groups of students responding to the study. The Rivers State University of Science and Technology students gave the highest ranking of first to the course, "Business Studies," to which 11 students responded, with the response

TABLE XVII

STUDENTS' SUGGESTED COURSES THAT SHOULD BE INCLUDED IN THE CURRICULUM

Courses	RSUST; N = 52			Uni Calabar; N = 27		
	Number of Responses	Percent Response	Rank	Number of Responses	Percent Response	Rank
Agriculture Courses						
1. Agricultural Mechanization	1	1.92	26	1	3.70	8
2. Food Processing Technology	7	13.46	3	0	0	0
3. Industrial Food Microbiology	3	5.77	9	0	0	0
4. Fishery Technology	4	7.69	7	0	0	0
5. Forest Mgmt. and Protection	2	3.85	16	0	0	0
6. Weed Science	2	3.85	16	0	0	0
7. Agricultural Entomology	2	3.85	16	0	0	0
8. Culture and Nutrition	5	9.62	5	2	7.41	3
9. Toxicology	3	5.77	9	0	0	0
10. Agricultural Policy, Development and Planning	0	0	0	2	7.41	3
11. Nigerian Agricultural Hist. and Sociological System	3	5.77	9	0	0	0
12. Soil and Water Conservation	1	1.92	26	1	3.70	8
13. Tractor Driving and Farm Power Maintenance	0	0	0	1	3.70	8
Agriculture Related Courses						
14. Climatology	1	1.92	26	3	11.11	2
15. Geography	7	13.46	3	0	0	0
16. Statistics	2	3.85	16	0	0	0
17. Traditional and Modern Mathematics	2	3.85	16	0	0	0
18. History of Science and Technology	3	5.77	9	0	0	0
19. Genetic Engineering	3	5.77	9	0	0	0
20. Experimental Design	0	0	0	1	3.70	8
21. International Trade	3	5.77	9	0	0	0
22. Community Development	0	0	0	1	3.70	8
23. Agricultural Law	2	3.85	16	0	0	0
24. Agricultural Communication	3	5.77	9	0	0	0
25. Agricultural Insurance and Finance	8	15.38	2	2	7.41	3
26. Production Economics	0	0	0	1	3.70	8
27. Rural Psychology	0	0	0	2	7.41	3
28. Agricultural Chemistry	0	0	0	1	3.70	8
Agriculture Related and Other Courses						
29. English	4	7.69	7	0	0	0
30. Philosophy	2	3.85	16	0	0	0
31. African History	2	3.85	16	0	0	0
32. History	2	3.85	16	0	0	0
33. Engineering Drawing and Mathematics	2	3.85	16	0	0	0
34. Instrumental Method Analysis	5	9.62	5	0	0	0
35. Data Processing	0	0	0	2	7.41	3
36. Business Studies	11	21.15	1	5	18.52	1
37. Library Studies	1	1.92	26	0	0	0

RSUST - Rivers State University of Science and Technology

Uni Calabar - University of Calabar

rate of 21.15 percent. Equally, the University of Calabar students gave a ranking of first to "Business Studies" with a total of five responses and a response rate of 18.52 percent. The second ranked course by the Rivers State University of Science and Technology students was "Agricultural Insurance and Finance," and its response rate was 15.38 percent, supported by a total of eight student responses. However, the University of Calabar students gave the second position to "Climatology" with a total of three student responses and 11.11 percent response rate. But one person responded to "Climatology" in the Rivers State University of Science and Technology group with a ranking of 26 and 1.92 percent response rate. But in the case of "Agricultural Insurance and Finance" the University of Calabar students ranked it third, with two student responses and 7.41 percent response rate. The third rank was given by the Rivers State University of Science and Technology students to "Food Processing Technology" with a total of seven student responses and 13.46 percent of student response rate, while this item realized no response from the University of Calabar students. The lowest ranking of 26 and a total of one student response and 1.92 percent response rate, was given by the Rivers State University of Science and Technology students to the following courses: "Agricultural Mechanization," "Soil and Water Conservation", "Climatology" and "Library Studies." But the University of Calabar students gave their lowest ranking of eighth to "Agricultural Mechanization," "Soil and Water Conservation," "Tractor Driving and Farm Power Maintenance," "Experimental Design," "Community Development," "Production Economic" and "Agricultural Chemistry," all with one student response and the response rate of 3.70 percent. On the whole, the University of Calabar student group did not give responses to most of

the suggested courses and they had fewer responses in this area than the Rivers State University of Science and Technology group.

Suggested courses by the instructors were tabulated in Table XVIII. A total of three (3) instructors (42.86 percent) from the Rivers State University of Science and Technology while three (3) instructors (60.00 percent) from the University of Calabar responded to this item. It was indicated that a ranking of first was given to "Agricultural Communication," with a total of three instructor responses and the percentage response of 42.86, whereas, no instructor from the University of Calabar responded to this item. The University of Calabar, however, gave the highest ranking of first to "Goat and Sheep Production," which was given a response rate of 60.00 percent, supported by a total of three instructor respondents. The Rivers State University of Science and Technology instructors gave the second rank to "Food Processing Technology," with the rate of response of 28.57 percent and a total of two respondents, while the University of Calabar instructors gave the third rank to this item with one instructor respondent and the response rate of 20.00 percent. This, however, was the lowest ranking given by the University of Calabar instructors. Other courses ranked lowest by the University of Calabar instructors were, "Principles of Food Preservation," "Horticulture" and "Environmental Physiology," all with one instructor respondent and 20.00 percent response rate, while the Rivers State University of Science and Technology instructors gave the lowest ranking of third to the following: "Food Microbiology," "Principles of Food Preservation," "Animal Diseases" and "Fruits and Vegetables." Generally speaking, judgments were hard to make here, since very few responses were made by both instructor groups from the two universities. However, a close observation revealed that while

TABLE XVIII

INSTRUCTORS' SUGGESTED COURSES THAT SHOULD BE INCLUDED IN THE CURRICULUM

Courses	RSUST Instructors; N=7			Uni Calabar Instructors; N=5		
	No. Respondents	Percent Response	Rank	No. Respondents	Percent Response	Rank
1. Food Processing Technology	2	28.57	2	1	20.00	3
2. Food Microbiology	1	14.29	3	0	0	0
3. Principles of Food Preservation	1	14.29	3	1	20.00	3
4. Animal Diseases	1	14.29	3	0	0	0
5. Agricultural Communication	3	42.86	1	0	0	0
6. Fruits and Vegetables (Post Harvest Physiology)	1	14.29	3	0	0	0
7. Horticulture	0	0	0	1	20.00	3
8. Soil Conservation Practices	0	0	0	2	40.00	2
9. Environmental Physiology	0	0	0	1	20.00	3
10. Goat and Sheep Production	0	0	0	3	60.00	1

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

students gave strong suggestions for incorporating agriculture-related and other courses in the curriculum, the instructors tended to give more support for the inclusion of additional agriculture courses in the curriculum.

Other Suggested Factors, Items, or Procedures to the Included in the Curriculum

Other suggested factors, items, or procedures deserving emphasis when developing any curriculum for training professional in agriculture by students of the two universities under study were presented in Table XIX. A total of 20 items were listed altogether in this area. A total of seven (13.46 percent) Rivers State University of Science and Technology students and four (14.81 percent) University of Calabar students responded to this item. Comparisons were equally difficult to make here, since most items had the response of one or nothing given to them. However, most responses came from the Rivers State University of Science and Technology students. The only two courses with the highest response rate of 3.85 percent and two responses for each were, "Tapping of Local Farmers' Knowledge" and "Implementing Agricultural Policies at all Levels Without Delay." The item "Tapping of local Farmers' Knowledge" also had one response and a response rate of 3.70 percent while the item "Implementing Agricultural Policies at all Levels Without Delay" had no response from the University of Calabar students. For the purpose of interpretation, these factors, items or procedures were divided by the author into three sub-headings. Those which were concerns for the agricultural colleges, concerns for the agricultural colleges and the government, and those which were concerns mostly for

TABLE XIX

STUDENTS' SUGGESTED FACTORS, ITEMS OR PROCEDURES THAT SHOULD BE CONSIDERED WHEN DEVELOPING AND IMPLEMENTING AGRICULTURE CURRICULA

FACTORS, ITEMS OR PROCEDURES	RSUST; N=52		Uni Calabar; N=27	
	Number of Responses	Percent Response	Number of Responses	Percent Response
Concerns for Agricultural Colleges				
1. Engagement of students in teacher projects	1	1.92	0	0
2. Giving priority to Students' Industrial Work Experience (SIWE)	1	1.92	1	3.70
3. Educating employers on the wise use of skills of trained agriculturists	1	1.92	0	0
4. Emphasizing on engineering sciences that will help to develop appropriate machines for mechanized farming	1	1.92	0	0
5. Having direct link between local farmers and market trends	1	1.92	1	3.70
6. Emphasizing both theory and practice in agriculture	0	0	1	3.70
7. Employing instructors with practical knowledge	0	0	1	3.70

TABLE XIX (Continued)

FACTORS, ITEMS OR PROCEDURES	RSUST; N= 52		Uni Calabar; N= 27	
	Number of Responses	Percent Response	Number of Responses	Percent Response
8. Letting agriculture students start practical work in their second year	0	0	1	3.70
Concerns for Agricultural Colleges and the Government				
9. Giving high priority to agricultural disbursement and production	1	1.92	0	0
10. Giving adequate financial assistance to students on industrial training	1	1.92	0	0
11. Tapping of local farmers' knowledge	2	3.77	1	3.70
12. Educating and encouraging private organizations to support research in agriculture	1	1.92	0	0
13. Intensifying research into Nigerian soils to improve crop yields	1	1.92	0	0
14. Encouraging research into the processing of local agricultural products	1	1.92	0	0

TABLE XIX (Continued)

Factors, Items or Procedures	RSUST; N=52		Uni Calabar; N=27	
	Number of Responses	Percent Response	Number of Responses	Percent Response
15. Organizing intensive study programs for farm attendants and officers in the Ministry of Agriculture	1	1.92	0	0
16. Designing programs for accepting higher national diploma students in agriculture at the master's degree level	1	1.92	0	0
17. Giving incentives to agriculture students	0	0	1	3.70
18. Establishing and supporting agric'l research institute	0	0	1	3.70
Concerns for the Government				
19. Implementing agricultural policies at all levels without delay	2	3.85	0	0
20. Making sure that agricultural policies do not fluctuate with change in leadership or government	1	1.92	0	0

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

the government. Items 1 to 8 were thought to concern the agricultural colleges mostly but not exclusively, items 9 to 18 were thought to mostly concern both the agricultural colleges and the government, while the author thought that items 19 and 20 were real concerns of the government. Both student groups, though with fewer responses, responded to item number 2 which was "Giving priority to Students' Industrial Work Experience (SIWE).

Instructors' suggested factors, items or procedures for the curriculum were shown in Table XX. Two Rivers State University of Science and Technology instructors (28.57 percent) and two instructors from the University of Calabar (40.00 percent) responded to this item. A total of three items were suggested. These items were, "Securing the involvement of local farmers to assess their problems and needs," "Teaching farm surveys both theory and practice," and "Securing evidence that financial institutions give loans to only worthy farmers." However, item number 1, which is "Securing the involvement of local farmers to assess their problems and needs," had the highest percentage response of 28.57 percent with two instructor respondents from the Rivers State University of Science and Technology while no instructor from the University of Calabar responded to this item. The only item responded to by both groups, was item number 3, which was "Securing evidence that financial institutions give loans to only worthy farmers" and it had a response from each instructor group. But further grouping of these items in this category for easy interpretation was unnecessary, since they (items) were few. However, both student and instructor groups were in agreement where they advocated for the involvement of the local farmers in agricultural development. This view is supported by items number 5 and 11 in Table XIX and item number 1 in Table XX.

TABLE XX

INSTRUCTORS' SUGGESTED FACTORS, ITEMS OR PROCEDURES THAT SHOULD BE CONSIDERED WHEN DEVELOPING AND IMPLEMENTING AGRICULTURE CURRICULA

Factors, Items or Procedures	RSUST; N = 7		Uni Calabar; N = 5	
	Number of Responses	Percent Response	Number of Responses	Percent Response
1. Securing the involvement of local farmers to assess their problems and needs	2	28.57	0	0
2. Teaching farm surveys, both theory and practice	0	0	1	20.00
3. Securing evidence that financial institutions give loans only to worthy farmers	1	14.29	1	20.00

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

Areas of Differences Between Students and Instructors

All across most areas and courses, judgments of students tended to be lower than the judgments of the instructors, with regard to the practical contents of the selected courses for this study. Students tended to give a rating of either "Little" or "Some" while the instructors most of the time gave a rating of "Some" or "Much" to these items. Again, the individual student groups seemed to give slightly different ratings, as the University of Calabar students most of the time gave lower ratings in terms of practical contents of the course, although there was some agreement in the area, "General Courses," where most students from both institutions gave a rating of "Some" most of the time to courses in this area.

In terms of the level of knowledge gained or imparted, the students seemed to have lower ratings than the instructors in such areas as "Agricultural Mechanics and Soil Science," "Animal Production and Food Technology," "Student Industrial Work Experience," and "General Courses." However, student groups tended to agree in their ratings of the "General Courses," with most courses rated either "Some" or "Much." Both student and instructor groups gave generally higher ratings concerning the level of future emphasis for these selected components in the curriculum. However, the University of Calabar students gave a much higher rating in terms of the selected "Factors, Items, or Procedures" for developing the curriculum.

For the suggested courses in the curriculum, students tended to require the inclusion of more agriculture-related and other courses, whereas instructors tended to emphasize more agriculture courses in the

curriculum. Even the "Never Taught or Studied Course" group gave slightly lower ratings in terms of the future emphasis for the selected components than other groups, but still asserted that most of those components deserved emphasis in the curriculum (See Appendix C).

Generally, almost all the curriculum components were given higher emphasis for the future development of agriculture curriculum in the two institutions under study.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter is intended to present the study's summary, conclusions and recommendations based on the major findings' out of the data collected. For the ease of realizing these goals, it was deemed appropriate to restate the purpose and the specific objectives of this study.

Purpose

The main purpose of this study was to determine the perceptions of the senior students and their teachers concerning selected components of the agriculture curriculum in two Nigerian universities.

Objectives of the Study

1. To determine the level of knowledge gained by students while studying the selected courses in the curriculum, as perceived by students in the two universities.
2. To determine the extent of practical contents of course offered within the agricultural curriculum in two Nigerian universities as perceived by:

(a) Senior students in the Colleges of Agriculture in the two universities

(b) Teachers in the Colleges of Agriculture in the two universities.

3. To determine the level of knowledge imparted to students while teaching the selected courses in the curriculum, as perceived by teachers in the two universities.

4. To determine the future level of emphasis which should be placed on the selected courses in the agriculture curriculum in the two Nigerian universities, as perceived by:

(a) Senior students in the Colleges of Agriculture in the two universities

(b) Teachers in the Colleges of Agriculture in the two universities.

5. To determine the recommended future level of emphasis that should be given to selected factors, items, or procedures, when developing and implementing curricula for the training of professional in agriculture, as perceived by:

(a) Senior students in the Colleges of Agriculture in the two universities

(b) Teachers in the Colleges of Agriculture in the two universities.

6. To determine the areas of differences between the senior students and the teachers of the two universities on the assessment of:

(a) The extent of practical contents of courses offered within the agriculture curriculum

(b) The level of knowledge gained or knowledge imparted while studying or teaching these courses, respectively, by both students and teachers in the two universities

(c) The future level of emphasis which should be placed on the selected curriculum components within the agriculture curriculum.

7. To discover additional courses, factors, items or procedures that should be included in the curriculum, as perceived by students and teachers of the two universities under study.

The author thought that all objectives of this study were very useful and interrelated. It was further thought that this would provide a forum whereby, not only teachers, but students, could air their views regarding the selected components of the agriculture curriculum in the various institutions under study. It was ultimately hoped that information from this study, will serve as valuable inputs for future revision and development of the agriculture curriculum in these two institutions under study. In order to achieve these aims, it was conceived as major prerequisites, to briefly re-state the summary of findings from the literature reviewed and ultimately, to present the summary of findings from data analyzed.

Summary of Findings From Review of Literature

The major findings from the literature reviewed included the following problems facing agricultural education in Nigeria and other developing nations. Some of the problems cited were:

1. The inability to adapt Western education to meet local situations,
2. Lack of emphasis in practical and skills training,
3. More students wanting to get admitted into colleges than there are facilities available to train them with,
4. The lack of cooperation between the incumbent Ministry of Agriculture and the universities or colleges of agriculture,
5. The lack of cooperation between the colleges of agriculture and employers or former students to find out skills that need to be improved in current students which can brighten their employability.
6. And the foreseen urgency needed to revise the agriculture curriculum, and in general, all curricula at all levels of education, to meet individual, societal and the future needs of Nigeria.

Summary of Findings From Analysis of Data

Agriculture Mechanics and Soil Science

A review of summary of findings presented in Tables III through XX were shown in Tables XXI through XXVII. A brief summary of the ratings and rankings of the respondents concerning courses in the area,

TABLE XXI

KNOWLEDGE GAINED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF COMBINED STUDENTS AND TEACHERS OF AGRICULTURE MECHANICS AND SOIL SCIENCE COURSES

Courses	Students and Teachers, N=91									
	Studied or Taught									
		KG			PC			FE		
	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Irrigation and drainage	36	3.64	M	3	2.53	S	7	4.33	M	3
2. Irrigation engineering	14	3.57	M	4	2.79	S	6	3.79	M	8
3. Food processing engineering	30	2.90	S	8	1.83	L	8	4.41	M	1
4. Surveys	37	3.22	S	7	3.11	S	3	4.00	M	7
5. Agricultural machines and workshop	63	3.27	S	6	3.10	S	4	4.35	M	2
6. Machine maintenance and safety	56	3.41	S	5	2.88	S	5	4.09	M	6
7. Soil morphology and erosion	55	3.73	M	2	3.16	S	2	4.22	M	5
8. Soil fertilization and fertilizers	70	3.99	M	1	3.22	S	1	4.33	M	3

N = Number of responses on each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N* = Only includes those students who studied and those teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits in Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

"Agriculture Mechanics and Soil Science" was shown in Table XXI. The combined group ranked the item "Soil Fertilization and Fertilizers" first in terms of:

1. The knowledge level with a rating of "Much."

2. And the practical contents of the course with the rating of "Some."

3. Again the entire group gave a ranking of third in terms of future level of emphasis needed with a rating of "Much."

4. While the item "Food Processing Engineering" was ranked first in terms of its future emphasis and with a "Much" rating.

5. The lowest ranking of eighth was given to "Food Processing Engineering" in the knowledge level with a rating of "Some" and for the practical contents of the course in the "Little" grouping.

6. The lowest ranking of eighth was given to "Irrigation Engineering" with a "Much" rating. Generally, most courses in this area were considered to be of "Some" level of knowledge and practical contents and a "Much" level of future emphasis which makes it a potential area that needs additional effort to balance the skills level with the future emphasis.

Agricultural Economics, Rural Sociology and Agricultural Extension

The respondents' ratings for courses in the area, "Agricultural Economics, Rural Sociology and Agricultural Extension" were summarized in Table XXII. It was shown in the data of all combined groups that:

1. The highest ranking of first was given to "Farm Management" for the knowledge level and practical contents, with the ratings of "Much" and "Some", respectively.

2. The highest ranking of first was given to "Statistics and Research Methods" for the future emphasis level, with a "Much" rating.

3. The ranking of ninth was given for the knowledge level, to "Marketing and Agricultural Accounting" and with a "Much" rating.

4. A ranking of ninth and a rating of "Little" for the practical contents was given to "Using Computers in Agriculture."

5. "Agricultural Cooperatives" ranked lowest (ninth) in future emphasis, with a "Much" rating.

However, the summation of the respondent ratings in the area, "Agricultural Economics, Rural Sociology and Agricultural Extension" revealed that most of the courses in this area, had a "Much" level of knowledge content, a "Some" level of practical contents and a "Much" level of future emphasis, which has left some room for additional work to balance the three aspects of the curriculum, namely, knowledge gained, practical contents and the future emphasis levels, in future curriculum revision efforts.

Animal Production and Food Technology

The summary ratings of the respondents in the area, "Animal Production and Food Technology," were presented in Table XXIII. Although courses selected in this area were few, data obtained still contained useful information for judgments to be made. The two courses in this area were rated:

TABLE XXII

KNOWLEDGE GAINED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF COMBINED STUDENTS AND TEACHERS ON AGRICULTURAL ECONOMICS, RURAL SOCIOLOGY AND AGRICULTURE EXTENSION COURSES

Courses	Students and Teachers; N = 91									
	Studied or Taught									
	KG				PC			FE		
	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Rural Social Dev't. & Leadership	43	3.91	M	3	2.95	S	6	4.26	M	7
2. Nigerian Agricultural Economics	53	3.83	M	5	3.06	S	4	4.38	M	3
3. Mktg. & Agricultural Accounting	51	3.56	M	9	2.78	S	7	4.27	M	6
4. Farm Management	73	4.30	M	1	3.38	S	1	4.41	M	2
5. Agricultural Cooperatives	26	3.65	M	7	2.77	S	8	3.76	M	9
6. Statistics & Research Methods	75	3.65	M	7	3.09	S	3	4.43	M	1
7. Using Computers in Agriculture	25	2.72	S	6	2.20	L	9	4.36	M	5
8. Agricultural Extension Planning	51	3.88	M	4	3.06	S	4	4.37	M	4
9. Extension Teaching & Demonstration	61	3.93	M	2	3.38	S	1	4.15	M	8

N = Number of responses in each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N* = Only includes those students who studied and those teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

TABLE XXIII

KNOWLEDGE GAINED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF COMBINED STUDENTS AND TEACHERS ON SELECTED ANIMAL PRODUCTION AND FOOD TECHNOLOGY COURSES

Courses	Students and Teachers; N = 91									
	Studied or Taught									
		KG			PC			FE		
	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Animal Physiology	42	3.50	M	2	2.90	S		3.98	M	2
2. Animal Breeding	41	3.54	M	1	2.73	S	2	4.31	M	1

N = Number of responses on each category

KG = Knowledge Gained

PC = Practical Content

FE = Future Emphasis

RSUST = Rivers State University of Science and and Technology

Uni Calabar = University of Calabar

R = Rank

NOTES: Limits on Mean Scores

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

C = Category

N* = Only includes those students who studied and those teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

1. In a "Much" category of knowledge level.

2. In a "Some" category of practical contents.

3. And in a "Much" category of future emphasis in the curriculum.

Plant Production and Protection

Summary judgments of the combined group of all respondents in the area of "Plant Production and Protection", were presented in Table XXIV. It was indicated that:

1. In the knowledge content aspect, "Fruit Production" received the highest ranking of first and with a rating of "Much."

2. In the practical contents sphere, a ranking of first and a rating of "Some" went to "Field Crops."

3. "Vegetables" received the highest ranking of first, and a rating of "Much" concerning the future emphasis realm of the curriculum.

4. The lowest ranking of fifteenth and a rating of "Some" was given to "Toxicology" for the knowledge level, and also was given a rating of "Some" and a ranking of fourteenth for the practical content, while it was rated "Much" and ranked fourteenth concerning its future emphasis in the curriculum.

Generally, all courses in this area were rated "Some" or "Much" for the knowledge content, "Some" for the practical content and "Much" for the future emphasis in the curriculum.

TABLE XXIV

KNOWLEDGE GAINED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF COMBINED STUDENTS AND TEACHERS ON PLANT PRODUCTION AND PROTECTION COURSES

Courses	Students and Teachers; N = 91									
	Studied or Taught									
		KG			PC			FE		
	N	Mean	C	R	Mean	C	R	Mean	C	R
1. Nurseries and Floriculture	19	3.58	M	9	2.79	S	12	3.79	M	13
2. Plant Nutrition	45	3.84	M	4	3.09	S	7	4.00	M	10
3. Plant Physiology	62	3.62	M	8	3.05	S	8	4.02	M	9
4. Plant Pathology	51	3.90	M	3	3.16	S	5	4.04	M	7
5. Field Crops	66	3.80	M	6	3.38	S	1	4.27	M	2
6. Vegetables	43	4.05	M	2	3.12	S	6	4.47	M	1
7. Fruit Production	31	4.14	M	1	3.25	S	4	4.25	M	3
8. Plant Breeding and Genetics	34	3.47	S	11	2.79	S	12	4.09	M	5
9. Insect Physiology	30	3.30	S	14	3.30	S	3	4.03	M	8
10. Agricultural Microbiology	49	3.59	M	10	2.84	S	11	3.98	M	11
11. Insects and Pest Control	60	3.72	M	7	2.88	S	10	3.95	M	12
12. Forage and Forestry	21	3.47	S	11	2.53	S	15	4.05	M	6
13. Useful Insects	19	3.47	S	11	2.89	S	9	3.63	M	15
14. Toxicology	23	3.26	S	15	2.77	S	14	3.73	M	14
15. Agricultural Landscaping	12	3.83	M	5	3.33	S	2	4.17	M	4

N = Number of responses in each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Seience and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N* = Only includes those students who studied and teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits in Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

Student Industrial Work Experience (SIWE)

Summary judgments of the combined group of all respondents in this area of "Student Industrial Work Experience," were shown in Table XXV. It was indicated in the data that:

1. The highest ranking in terms of the knowledge level and practical contents was given to "Poultry Production" and all the other two aspects were rated "Much".

2. The highest ranking for the future emphasis level was given to "Extension Planning" and with a rating of "Much."

3. The lowest ranking of tenth and a rating of "Some" was given to "Food Technology and Dairy Science" concerning the practical contents of the course in the curriculum.

Generally speaking, given a holistic assessment of the area, "Student Industrial Work Experience," it was observed that the trend showed all courses being rated "Much" in the areas, knowledge gained and future emphasis, while most courses had a "Some" level of practical contents.

General Courses

A summary of judgments of the combined group of all respondents in the area, "General Courses" were tabulated in Table XXVI. It was indicated that:

1. The lowest ranking of ninth, for knowledge gained, with a rating of "Some," was given to "Geology," while all other courses were grouped in the "Much" category with the highest ranking of first given to "Biochemistry."

TABLE XXV

KNOWLEDGE GAINED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF COMBINED STUDENTS AND TEACHERS OF STUDENT INDUSTRIAL WORK EXPERIENCE (SIWE) COURSES

Courses	Students and Teachers, N=91									
	Studied or Taught									
		KG			PC			FE		
	N*	Mean	C	R	Mean	C	R	Mean	C	R
1. Agricultural Mechanics	55	3.55	M	9	3.24	S	6	4.13	M	9
2. Agricultural Economics	72	4.01	M	3	3.39	S	5	4.42	M	2
3. Extension Planning	49	3.73	M	7	3.16	S	7	4.43	M	1
4. Extension Teaching & Demonstration	54	3.80	M	6	3.41	S	4	4.31	M	5
5. Plant Production and Protection	68	4.03	M	2	3.54	M	2	4.37	M	4
6. Food Technology & Dairy Science	37	3.43	S	10	2.97	S	10	4.06	M	10
7. Animal Production	67	3.69	M	8	3.15	S	8	4.18	M	8
8. Soil Science	66	3.85	M	5	3.53	M	3	4.23	M	6
9. Poultry Production	73	4.08	M	1	3.74	M	1	4.40	M	3
10. Adult Education & Adoption of New Practices	22	3.86	M	4	3.00	S	9	4.23	M	6

N = Number of responses in each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N* = Only includes those students who studied and those teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits of Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

TABLE XXVI

KNOWLEDGE GAINED, PRACTICAL CONTENT AND FUTURE EMPHASIS PERCEPTIONS OF COMBINED STUDENTS AND TEACHERS OF GENERAL COURSES

Courses	Students and Teachers, N=91									
	Studied or Taught									
	N*	KG Mean	C	R	PC Mean	C	R	FE Mean	C	R
1. Biochemistry	28	3.93	M	1	2.96	S	6	3.79	M	7
2. Organic Chemistry	60	3.65	M	4	3.19	S	3	3.82	M	5
3. General Zoology	42	3.71	M	2	3.12	S	4	3.81	M	6
4. Geology	26	3.27	S	9	2.67	S	8	3.73	M	8
5. Mathematics	87	3.62	M	8	3.00	S	5	4.07	M	2
6. Calculus	61	3.52	M	7	2.81	S	7	3.70	M	9
7. Physics	79	3.60	M	5	3.26	S	2	3.83	M	4
8. General Chemistry	83	3.70	M	3	3.36	S	1	3.96	M	3
9. Local Culture and Traditions	27	3.54	M	6	2.74	S	9	4.37	M	1

N = Number of responses in each category

KG = Knowledge Gained

PC = Practical Contents

FE = Future Emphasis

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

R = Rank

C = Category

N* = Only includes those students who studied and those teachers who taught the courses. Responses from students not studying and teachers not teaching the courses can be found in Appendix C.

NOTE: Limits in Mean Scores:

Very Much = 4.50 - 5.00

Much = 3.50 - 4.49

Some = 2.50 - 3.49

Little = 1.50 - 2.49

Very Little = 1.00 - 1.49

2. Regarding the practical content of courses, respondents grouped all courses in the "Some" category with the highest ranking of first given to "General Chemistry."

3. For the future emphasis aspect, all courses in this area were grouped in the "Much" grouping with the highest ranking of first given to "Local Culture and Tradition," though the lowest ranking of ninth was given to this course concerning its practical contents.

However, almost all courses in the area of "General Courses," had a "Much" grouping for its knowledge content and future emphasis, and "Some" grouping for its practical contents.

Summary of Findings Regarding the Recommended Future Emphasis of Selected Factors, Items or Procedures in Developing Agriculture Curricula

The summarized responses of the combined group of all respondents were tabulated in Table XXVII. Data available indicated that:

1. The highest ranking of first was given to number 5 item in the questionnaire, which is "Securing evidence that the teaching faculty is strongly committed to exerting a special effort to provide effective training for professional agriculturists," and in a rating of "Very Much" category, for which the individual student and instructor groups provided highest ranking and rating.

2. The second ranking was given to item number 7, which is "Assessment of the extent of cooperative effort and involvement between

TABLE XXVII

FUTURE EMPHASIS PERCEPTIONS OF COMBINED STUDENTS AND TEACHERS ON SELECTED FACTORS, ITEMS OR PROCEDURES IN DEVELOPING AND IMPLEMENTING CURRICULA IN AGRICULTURE

Factors, Items of Procedures	Students and Teachers; N = 91		
		FE	
	Mean	C	Rank
1. Securing involvement of the College of Agriculture and the agricultural students in determining their needs, interests and aspirations	4.23	M	6
2. Giving due study and consideration to culture and tradition as these have affected teaching, learning and adoption of agricultural practices	3.63	M	9
3. Securing evidence that institutional administrators are willing to place emphasis upon agricultural research, development and implementation of indigenous agriculture	4.36	M	3
4. Securing evidence that institutional administrators attempt to give high priority to the allocation of resources to programs preparing professionals in agriculture	4.07	M	8
5. Securing evidence that the teaching faculty is strongly committed to exerting a special effort to provide effective training for professional agriculturists	4.54	VM	1
6. Securing involvement of graduates now serving in agricultural positions	4.28	M	5
7. Assessment of the extent of cooperative effort and involvement between administration and teaching faculty of the University, Ministry of Agriculture and agricultural agencies and organizations in agricultural development	4.39	M	2
8. Assessment of performance of graduates on the job	4.09	M	7
9. Securing the continuous joint evaluation of the agricultural programs between students and the teaching faculty of the University	4.35	M	4

RSUST = Rivers State University of Science and Technology

Uni Calabar = University of Calabar

FE = Future Emphasis

Rating Symbols:

VM = Very Much

M = Much

S = Some

L = Little

VL = Very Little

administration and teaching faculty of the University, Ministry of Agriculture and agricultural agencies and organizations in agricultural development," and with a rating of "Much."

3. The third ranking was given to the item, "Securing evidence that institutional administrators are willing to place emphasis upon agricultural research development, and implementation of indigenous agriculture," and with a rating of "Much."

4. The lowest ranking of ninth was given to "Giving due study and consideration to culture and tradition as these have affected teaching, learning, and adoption of agricultural practices," and with a rating of "Much."

It is worthy of note that no item in this area had a rating expressed as lower than "Much" level.

Summary of Major Differences in Responses Between Students and Instructors

A holistic assessment of responses including discovered differences between the two groups, students and teachers revealed the following:

1. When assessing the level of knowledge content gained or imparted, students rated four of the eight courses in the area, "Agriculture Mechanics and Soil Science", in the "Some" category, with the remaining four courses rated in the "Much" category. Comparatively, instructors rated seven of the eight courses in the "Much" category. The only one course rated by the instructors in a "Some" category was "Agricultural Machines and Workshop," which also received a "Some" rating from students (See Table XXI).

2. Also concerning knowledge content gained or imparted in the area, "Agricultural Economics, Rural Sociology and Agricultural Extension", the only two courses rated "Some" by the students were "Agricultural Cooperatives" and "Using Computers in Agriculture." These same sub-area groupings were rated "Much" by the instructors for the knowledge content gained. Other courses in the area received a "Much" rating from both students and teachers (See Table XXII).

3. Within the area, "Animal Production and Food Technology", "Animal Physiology" and "Animal Breeding" which received a rating of "Some" each from students for knowledge level gained, were rated in the "Much" category by instructors (See Table XXIII).

4. Within the area, "Plant Production and Protection," "Plant Breeding and Genetics," "Insect Physiology," and "Toxicology," which received a rating of "Some" from the students for knowledge content gained, were all rated in the "Much" category by the instructors (See Table XXIV).

5. Also within the area, "Student Industrial Work Experience (SIWE)," "Agricultural Mechanics" and "Food Technology and Dairy Science," which students rated "Some" for the knowledge gained, were rated "Very Much" and "Much" respectively, by the the instructors (See Table XXV).

6. In keeping with the trends, it was found that, "Local Culture and Tradition" which students rated as having a knowledge level of "Some," was rated "Very Much" by the instructors.

7. Students rated "Securing evidence that the teaching faculty is strongly committed to exerting a special effort to provide effective

training for professional agriculturists," in a "Much" category, while a rating of "Very Much" was given by the instructors.

8. Concerning the practical content of the courses, on the average, students generally rated most courses as being in the "Some" category, while the instructors rated them in a "Much" category. Courses such as "Food Processing Engineering," "Using Computers in Agriculture," "Toxicology," "Local Culture and Tradition," rated "Little" by the students, were rated either "Some" or "Much" or "Very Much" for their practical content by their instructors.

9. For additional courses to be included in the curriculum, most students suggested "Business Studies," while most teachers suggested "Agricultural Communication," and "Goat and Sheep Production."

Conclusions

Based upon the data available from the data analysis, the following conclusions were reached:

1. On the average, students from the two institutions under investigation perceived the level of knowledge gained in the various selected courses in their curriculum to be in the rating category of "Much." However, some areas, such as "Agriculture Mechanics and Soil Science" and "Animal Production and Food Technology" deviated from this trend, where many courses in the case of the former area were categorized in the knowledge grouping of "Some" and in the latter, where the only two selected courses had a knowledge level of "Some" (See Tables XXI and XXIII). The lowest rankings and ratings were given to the following courses:

1. Food Processing Engineering
2. Plant Production and Protection
3. Food Technology and Dairy Science, and
4. Geology.

The low rankings and ratings depicted an apparent incompleteness of the course contents of those courses in the curriculum, leaving potential areas for curriculum improvement and development.

2. The summation of the total student and instructor responses depicted the average ratings of all students for the practical contents of the selected courses in the curriculum to be in the "Some" category, while the instructors' average ratings in this aspect were in the "Much" grouping. The conclusion drawn from these discrepancies is that the perceptions of the student and their teachers should form the pivot for instructional and curriculum revisions, to make the course and practical contents of the various courses in the curriculum more meaningful to students and their realities. It was further concluded that courses in the area of "Animal Production and Food Technology" required additional attention to bring the practical contents to balance the knowledge level in the curriculum, since both students and instructors rated all the courses in this area as having a practical content level of "Some" grouping in the curriculum. Again, special attention should be given to "Food Processing Engineering," "Using Computers in Agriculture," "Forage and Forestry," "Food Technology and Dairy Science" and "Local Culture and Tradition" because of their exceptionally low level of practical contents in the curriculum.

3. The general ratings of instructors from the two institutions under study depicted the level of knowledge imparted to students to be in the "Much" grouping according to the scale of absolute limits in Table II. However, "Agricultural Machines and Workshop," "Useful Insects," and "Physics" required additional work to elevate the knowledge content to some appreciable levels. It was further concluded that additional effort could be made to select more course contents to raise the knowledge level of these courses to a "Very Much" grouping.

4. All the selected courses are perceived by the senior students, on the average, to be in the "Much" grouping of future emphasis, in the curriculum.

The combined group of instructors from the two Universities, gave ratings of either "Very Much" or "Much" to the selected courses, although a rating of "Some" was given to "Plant Physiology" and "Useful Insects."

It was therefore concluded that all the selected courses in the curriculum should have much future emphasis.

5. For the future emphasis, senior students in the Colleges of Agriculture of the two universities placed all the selected factors, items, or procedures for developing an agriculture curriculum in a "Much" rating category. Also, the instructors or teachers of the two institutions, followed the same trend as the senior students, but deviated slightly by giving a rating of "Very Much" to the item, "Securing evidence that the teaching faculty is strongly committed to exerting a special effort to provide effective training for professional agriculturists."

It was therefore concluded that all the selected factors, items, or procedures in the curriculum should have a "Much" future emphasis level and should be highly considered in subsequent curriculum revision efforts in the two institutions under study.

6. Concerning the assessment of the differences between the senior students and the teachers of the two universities, it was observed that:

(a) For the practical contents aspect of the selected courses, the students rated most courses to be in the "Some" category, while the teachers rated these courses in a "Much" grouping. The author believed that the differences in perceptions between the students and teachers could be attributed to the differences in their backgrounds and experience, the teachers being more experienced than the students. However, the real ingredients for curriculum revisions should be from the feedback from both students and the teachers. Effort should be made through curriculum revision to elevate the students' perceived level of the practical contents in courses within the agriculture curriculum.

(b) Some courses in the areas of "Agriculture Mechanics and Soil Science" and "Animal Production and Food Technology", which students rated in the knowledge level of "Some" category were rated "Much" by the teachers (See Tables XXI and XXIII). It is

further concluded that these courses should be studied closely to see where the differences are, in order to improve them.

(c) Teachers tended to give higher ratings to many of the selected courses, for their future emphasis in the curriculum than the students. The apparent conclusions drawn were that the level of future emphasis given to these selected courses might have some correlation with the experience level of the respondents. In order to raise the future emphasis level of students, the knowledge and the practical contents levels must be elevated in the curriculum by careful selections of additional meaningful learning activities of these courses in the curriculum.

7. (a) Concerning the additional courses to be included in the curriculum, the highest ranking of first was given by the students to "Business Studies" in the area, Agriculture Related and other Courses (See Table XVII), while the two instructor groups gave a ranking of first to "Agricultural Communication" and "Goat and Sheep Production" (See Table XVIII).

From the trends of responses, it was concluded that students much more than teachers, wanted a more integrated curriculum that would require information from agriculture, business, and non-business areas. This is where the students' and teachers' involvement in the curriculum development process is needed to make teachers more aware of the students perceived needs and aspirations.

(b) In the case of additional factors, items or procedures to be included in the curriculum, both students and teachers gave highest responses to the items, "Tapping of local farmers' knowledge" and "Securing the involvement of local farmers to assess their problems and needs" (See Tables XIX and XX). Both students and teachers also emphasized teaching both theory and practicals in agriculture. The students further emphasized on the item, "Implementing agricultural policies at all levels without delay," which was the concern for both institutions and the governments.

The imminent conclusion was that both students and teachers needed equal emphasis for theoretical and practical skills in agriculture. An additional conclusion was that both students and teachers were aware of the missing link between agricultural development and local farmer involvement and they would want both the institutions and the governments to repair these wounds first through restructuring curricula in the colleges of agriculture to embrace these missing values, which, however, would be the advent of a pragmatic educational system in Nigeria. Hitherto, this has been a dream for most Nigerians with futuristic acumen.

Recommendations

The following recommendations were arrived at from the data available from this study.

1. As indicated by the lower knowledge ratings, the knowledge level of almost all the courses in the curriculum should be enriched by a careful selection of closely related learning activities, as well as a

continual re-assessment of course content. Courses such as "Food Processing Engineering" "Plant Production and Protection," "Food Technology and Dairy Science," "Geology," with exceptionally low ratings should be given more effort to effectively motivate students and help them to discover relatedness as well as new meanings. Above all, such re-organization should express primary basic concern with students and their circumstances.

2. Since overall, the practical content ratings were lower than knowledge content and future emphasis, steps should be taken to increase the practical content of the courses. This can as well be done by a careful selection and re-organization of additional related laboratory activities in each course. In the selection process, more attention should be given to courses with exceptionally low level of practical content in the curriculum.

3. Additional facts and concepts should be selected to boost the knowledge level of "Agricultural Machines and Workshop," "Useful Insects," "Physics," and any other courses with very low knowledge level ratings.

4. Since almost all the selected courses had future emphasis ratings of "Much" and "Very Much" by both students and instructors, all should receive strong emphasis for strengthening knowledge and practical content.

5. All the selected factors, items, or procedures received much emphasis ratings for the future and should be considered and strengthened in subsequent curriculum revision efforts.

6. Additional suggested courses should be studied closely, and those feasible should be included in the curriculum. To meet the diversed needs and interests of students, patterns similar to the general education, the major and the electives common to the United States educational system, should be considered.

7. In view of the unforeseen role computers will play in the future of our agriculture, it is necessary to give the course "Using Computers in Agriculture" a place in the curriculum. Where skills to teach this course is lacking, teachers should be sent overseas for the necessary training.

Implications

1. The lack of emphasis in an area such as "Agricultural Communication" could be one of the prominent factors, paralyzing agricultural extension services in Nigeria. It was therefore thought that the two institutions should incorporate this important area in their curriculum during subsequent curriculum revisions.

2. The lack of confidence in agricultural extension and its subsequent low outputs, could be attributed to lack of attention to the study of local culture and traditions in institutions of higher learning in Nigeria which is depicted in this study.

Since it is generally accepted that local farmers can easily be convinced to adopt new practices and innovations if the extension agents could communicate with them (local farmers) in a collegial atmosphere, it was further concluded that agricultural extension could achieve more

if the study of local culture and tradition was embraced in the curriculum for training agricultural personnel.

3. One role of education is to transform and civilize any society. Very few societies, if any, can be transformed and civilized when the majority of its citizens are starving. Therefore, the low attention given to "Food Technology and Dairy Science," and "Food Processing Engineering" has suggested a potential gap to be filled in subsequent curriculum review proceedings.

4. The author generally concluded that, in order to upgrade the practical contents ratings of most courses in the curriculum, additional effort was needed to carefully select learning activities that have immediate applicability to solving real life problems in agriculture in particular and the society in general.

5. The low ratings given "Agricultural Cooperatives" showed that the students did not appropriately understand the concepts of this course in the curriculum. Therefore, its course contents needs to be enriched with appropriate concepts and facts well explained.

6. Integrated or inter-disciplinary programs such as Agribusiness and Agricultural Communication be given a place in the curriculum based upon the students' suggested courses in the curriculum.

7. Vocational agriculture be offered at all levels of education in Nigeria, with the federal government taking a large portion of its sponsorship, since at the moment, this has not received much attention in Nigeria.

8. The philosophy of higher education, and that of agricultural education in particular, should be restructured to include such

concepts as: Manpower needs of the society, learning-by-doing, experiential learning, citizenship and environmental education, leadership skills, local culture and traditions and the dignity of farming, just to mention a few, since these are values cherished by progressive societies.

9. Inservice education programs should be organized by schools to update the skills of teachers and staff as this can help to refresh their theoretical and practical skills.

10. In view of the unforeseen role computers will play in the future of our agricultural systems, it is necessary to give the course "Using Computers in Agriculture" a place in the curriculum. Where skills to teach this course is lacking, teachers should be sent overseas for the necessary training.

11. Higher National Diploma (HND) certificate programs in agriculture should be moderated by appropriate institutions, possibly, the Universities of science and technology, so that products of these programs are accepted to do their master's degrees in Agriculture, in allied institutions.

12. Agriculture curricula should be evaluated every three years in institutions of higher learning in Nigeria, while instructional processes should be evaluated every year, with a well-structured evaluation system designed for each program and each institution, while input from students is taken seriously.

13. Teachers with practical expertise should be given preference in teaching appointments as this procedure is emphasized by both students and teachers under study.

14. A study similar to this be carried out in Nigeria, to include more institutions and sub-groups, such as former graduates, local farmers, and employers, and more sophisticated statistics be used to study the association between career choice in agriculture, and some selected socio-economic variables.

15. Teachers of agriculture should be interested in writing textbooks on indigenous agriculture as there is shortage of text books of agriculture in Nigeria.

16. Agencies and institutions should be interested in sponsoring research that will lead to the processing of our local food materials to get varieties of finished products.

17. In order to restore public confidence in education, educators and the lay people should sit together to address issues that will improve the prestige of education in the Nigeria of tommorrow, considering the risk of future mass unemployment in our society.

18. The inculcation of appropriate and the missing values of our society could be effectively done through organizing youth programs such as the Young Farmers Club, Horticultural Society, Agricultural Society and the Science Clubs, and the government should assume full sponsorship for the interest of continuity and goal achievement.

A SELECTED BIBLIOGRAPHY

Al-Zaidi, Abdullah A. "Adequacies of Curriculum and Training in Agriculture Provided at Three Saudi Institutions as Assessed by Administrators, Instructors, Senior Students and Regional Directors." (Unpublished Ed.D. Dissertation, Oklahoma State University, 1982).

Aqa, Mir. "The Perceptions of High School Vocational Agriculture Teachers and Their Graduates As To Curricular Need for Vocational Agriculture in Afghanistan." (Unpublished Ed.D. Dissertation, Oklahoma State University, 1978).

Arieh, Lewy. Handbook of Curriculum Evaluation. New York: Longman, Inc., 1977)

Bell, D. "The Year 2000 - The Trajectory of an Idea. In Toward the Year 2000: Work in Progress. "Daedalus", Vol. 96 (Summer 1967), pp. 642-644.

Brock, Donald W. "A Comparison of Emphasis on Selected Aspects of Programs of Vocational Agriculture in Rural and Urban Areas of Texas as Perceived by Vocational Agriculture Teachers." (Unpublished Ed.D. Dissertation, Oklahoma State University, 1976).

Burns, R.W. and Gary D. Brooks. Curriculum Design in Changing Society. Englewood Cliffs, New Jersey: Educational Technology Publications, 1970.

Cay, Donald F. Curriculum: Design for Learning. New York: The Bobbs-Merrill Company, Inc., 1966.

Conley, V.C. Curriculum and Instruction in Nursing. Boston: Little, Brown. 1973.

Dayrit, Ruben S. "Competency Bases for an Agricultural Education Program for the College of Micronesia." (Unpublished Dissertation, Oklahoma State University, 1980).

Doll, Ronald C. Curriculum Improvement: Decision-Making and Process, 4th Edition. Boston: Allyn and Bacon, Inc., 1974.

"Egyptian Agriculture Cannot Meet Food Needs Because of Ancient Farming Methods and the Lack of Land." New York Times. New York: February 6, 1977, p. 11.

"Green Revolution Program." Cross River State of Nigeria Program of Events, September 1980.

Hass, Glen. Curriculum Planning: A New Approach. Third Edition. Boston: Allyn and Bacon, Inc., 1980.

Heyneman, Stephen. "Textbooks Do Make a Difference." World Bank News, Vol. II, No. 21, 1983.

Jaccard, James. Statistics for the Behavioral Sciences. Belmont, California: Wadsworth Publishing Company, 1983.

Jennings-Wray, Zellyne. Agricultural Education and Work Experience Programmes in School in a Third World Country: What Prospects for Human Resources Development?" Comparative Education, Vol. XVIII, No. 3, 1982, 281.

Kerlinger, Fred N. Foundations of Behavioral Research. New York: Holt, Rinehart and Winston, Inc., 1964.

Key, James P. "Research Design in Occupational Education 5980." Stillwater, Okla.: Department of Agricultural Education, Oklahoma State University, 1974.

Kim, Young J. "Perceptions of Administrators, Faculty and Senior Students Concerning the Curriculum of Four Agricultural Junior Colleges in Korea." (Unpublished M.S. thesis, Oklahoma State University, 1983.)

King, A.R. Jr. and J.A. Brownell. The Curriculum and the Disciplines of Knowledge. New York: John Wiley and Sons, 1966.

Nduka, O. Western Education and the Nigerian Cultural Background. 1st Edition. Ibadan: Oxford University Press, 1965.

MacDonald, J. Responsible Curriculum Development. In E. Eisner (ed.) Confronting Curriculum Reform. Boston: Little, Brown and Co., 1971.

Norton, John K. and Margaret Norton. Foundations of Curriculum Building. New York: Ginn and Company, 1936.

Okoye, Hazodo A. "Proposed Program of Agricultural Education for Nigeria." (Unpub. Ph.D. Dissertation, Purdue University, 1966).

"Operation Feed the Nation." The Development of Agriculture in the Cross River State of Nigeria. Calabar: Agriculture Division of the Ministry of Agriculture and Natural Resources, 1980. p. 14.

Ojo, E.A. "Factors Motivating Young Oklahomans to Choose Farming as a Career, with Implications for the Choice of Farming (Especially by

the Young School Leavers) as a Career in Nigeria." (Unpub. M.S. thesis, Oklahoma State University, Stillwater, Okla., 1973).

Price, Robert R. Foods Future: The Alleviation of World Hunger. Stillwater, Okla.: Independent and Correspondence Study, Oklahoma State University, 1984.

United Nations Education, Scientific and Cultural Organization. Agricultural Education in Asia, A Regional Survey. Paris: Imprimerie Firmin-Didot, 1971.

Uka, N. "The Nigerian Youth and Vocational Education." West African Journal of Education, 18, 1984, pp. 39-43.

Unruh, Glenys G. Responsive Curriculum Development, Theory and Action. Berkeley, California: McCuthcan. 1975.

Yorama, Moses T. "The Feasibility of Dairying in the Niger Delta Area of Nigeria." (Unpub. M.S. thesis, Oklahoma State University, Stillwater, Okla., 1979).

APPENDIXES

APPENDIX A

QUESTIONNAIRE

PERCEPTIONS OF SENIOR STUDENTS AND TEACHERS CONCERNING SELECTED COMPONENTS OF THE AGRICULTURE CURRICULUM IN TWO NIGERIAN UNIVERSITIES

Hints For The Administration Of The Questionnaire

The population of this study includes all the: (a) Senior students, and (b) Teachers in the college or faculty of agriculture, in the universities under study.

PART I:

A. In the column provided, let respondents check "Yes" if they have taught or have studied the courses listed, and "No" if otherwise. (Remind students and teachers to check ALL courses on knowledge, practical content and future emphasis whether they have studied the course or not.)

B. For ALL the courses listed, let respondents check one of the five responses in the columns provided, concerning knowledge gained or knowledge imparted while studying or teaching these courses.

C. On the scale of 1 to 5 provided, let respondents check the numbers that best represent, how they perceive the extent of practical contents of all the courses listed, as they are taught by the school.

D. On the last column beside each item, respondents should check one of the five sub-columns on the scale of 1 to 5 provided, that best represents their recommended future emphasis for these courses within the curriculum.

E. Have students and teachers list other courses they think should ALL be included in the curriculum.

PART II:

A. Let respondents check one of the five sub-columns on the right of the following factors, items, or procedures, that indicates the recommneded future level of emphasis that should be given to these items, when developing and implementing curricula for the training of professionals in agriculture.

B. Let respondents also list additional factors, items, or procedures, they perceive to be important in developing and implementing curricula for the training of professionals in agriculture, in the spaces provided, under item 10.

PART III:

A. Respondents should also check responses that best identify them, in this section of the questionnaire.

B. Let each respondent try to answer all questions provided in the questionnaire.

Thank you for your cooperation.

Michael E. Akpan

Michael Ebewo Akpan
Dept. of Agricultural Education
Oklahoma State University
Stillwater, Oklahoma

PERCEPTIONS OF THE SENIOR STUDENTS AND TEACHERS
CONCERNING SELECTED COMPONENTS OF THE
AGRICULTURE CURRICULUM IN TWO
NIGERIAN UNIVERSITIES

QUESTIONNAIRE FOR RESPONDENTS

PART 1:

* A. Please respond to each item in this section of the questionnaire in terms of whether or not you have taught or have been taught courses listed in the column provided.

B. Evaluate each item in terms of the knowledge gained or knowledge imparted while studying or teaching these courses using the scale below:
   5 = Very Much 3 = Some 1 = Very Little
   4 = Much 2 = Little

C. Also evaluate your perceptions of the extent of practical contents of each course offered by the school using the scale below:
   5 = Very Much 3 = Some 1 = Very Little
   4 = Much 2 = Little

D. Indicate your recommended future emphasis that should be placed for each of these courses within the curriculum using the following scale:
   5 = Very Much 3 = Some 1 = Very Little
   4 = Much 2 = Little

AREA OF STUDY	Whether you have taught or have studied this course		Knowledge gained or knowledge imparted while studying or teaching this course						Extent of Practical contents of course						Recommended future emphasis of this course within the curriculum				
	YES	NO	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
A. Agriculture Mechanics and Soil Science																			
1. Irrigation and drainage																			
2. Irrigation engineering																			
3. Food processing engineering																			
4. Surveys																			
5. Agricultural machines & workshop																			
6. Machine maintenance and safety																			
7. Soil morphology & erosion																			

* Please check ALL courses on Knowledge, Practical content and future emphasis whether you have studied or taught that course or not.

	YES	NO	5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
8. Soil fertilization & fertilizers																			
B. Agricultural Economics, Rural Sociology and agricultural Extension																			
1. Rural social development and leadership																			
2. Nigerian agricultural economics																			
3. Marketing and agricultural accounting																			
4. Farm management																			
5. Agricultural cooperatives																			
6. Statistics and research methods																			
7. Using computers in agriculture																			
8. Agricultural extension planning																			
9. Extension teaching and demonstration																			
C. Animal Production and Food Technology																			
1. Animal physiology																			
2. Animal breeding																			
D. Plant Production and Protection																			
1. Nurseries and floriculture																			
2. Plant nutrition																			
3. Plant physiology																			
4. Plant pathology																			
5. Field crops																			
6. Vegetables																			
7. Fruit production																			
8. Plant breeding and genetics																			
9. Insect physiology																			

	YES	NO																
			5	4	3	2	1		5	4	3	2	1		5	4	3	2	1
10. Agricultural microbiology																			
11. Insects and pest control																			
12. Forage and forestry																			
13. Useful insects																			
14. Toxicology																			
15. Agricultural landscaping																			
E. Student industrial work experience (SIWE)																			
1. Agricultural mechanics																			
2. Agricultural economics																			
3. Extension planning																			
4. Extension teaching and demonstration																			
5. Plant production and protection																			
6. Food technology and dairy science																			
7. Animal production																			
8. Soil science																			
9. Poultry production																			
10. Adult education and adoption of new practices																			
F. General Courses																			
1. Biochemistry																			
2. Organic Chem																			
3. General Zoology																			
4. Geology																			
5. Mathematics																			
6. Calculus																			
7. Physics																			
8. General Chem																			
9. Local culture and tradition																			

G. List other courses you think should be included in the curriculum.

1.
2.
3.
4.
5.

PART II:
Indicate your recommended future level of emphasis that should be given to the following factors, items, or procedures, when developing and implementing curricula for the training of professionals in agriculture, using the following scale:

5 = Very Much 3 = Some 1 = Very Little
4 = Much 2 = Little

Factors, Items, or Procedures	5	4	3	2	1
1. Securing involvement of the College of Agriculture and the Agricultural students in determining their needs, interests, and aspirations					
2. Giving due study and consideration to culture and tradition as these have affected teaching, learning, and adoption of agricultural practices					
3. Securing evidence that institutional administrators are willing to place emphasis upon agricultural research, development, and implementation of indigenous agriculture					
4. Securing evidence that institutional administrators attempt to give high priority to the allocation of resources to programs preparing professionals in agriculture					
5. Securing evidence that the teaching faculty is strongly committed to exerting a special effort to provide effective training for professional agriculturists					
6. Securing involvement of graduates now serving in agricultural positions					
7. Assessment of the extent of cooperative effort and involvement between administration and teaching faculty of the University, Ministry of Agriculture and agricultural agencies and organizations in agricultural development					
8. Assessment of performance of graduates on the job					
9. Securing the continuous joint evaluation of the agricultural programs between students and the teaching faculty of the university					
10. Other (List)					
a. _____					
b. _____					
c. _____					
d. _____					
e. _____					
f. _____					
g. _____					
h. _____					

PART III:

General and Personal Information:

1. Check your identity

____ Student
____ Teacher

2. Indicate institution

____ Rivers State University of Science and Technology, Port Harcourt
____ University of Calabar, Calabar

3. Indicate your major area of study or teaching

_____

4. Please check degree held or degree sought

____ Doctoral
____ Master's
____ Bachelor's
____ Other (Specify) _____

5. Check place of birth

____ Rural village
____ Urban

6. Check place of present residence

____ Rural village
____ Urban

APPENDIX B

SUPPORTING INFORMATION

TABLE XXVIII

RESPONDENTS BY MAJOR AREA OF STUDY OR TEACHING

Major Area of Study/Teaching	Students	Teachers
1. Crop Science	6	0
2. Agricultural Economics and Extension	42	3
3. Soil Science	7	1
4. Agricultural Education	6	0
5. Food Science and Technology	6	3
6. Agronomy	6	2
7. Animal Science	4	1
8. Agricultural Engineering	1	1
9. Reproductive Physiology	0	1
10. Farm Management and Production Economics	1	0
TOTAL	79	12

RSUST- Rivers State University of Science and Technology

Uni Calabar - University of Calabar

TABLE XXIX

RESPONDENTS' MAJOR AREA OF STUDY OR TEACHING, BY PLACE OF BIRTH

Major Area of Study/Teaching	Rural	Urban
1. Crop Science	4	2
2. Agricultural Economics and Extension	25	20
3. Soil Science	5	3
4. Agricultural Education	4	2
5. Food Science and Technology	5	4
6. Agronomy	6	2
7. Animal Science	3	2
8. Agricultural Engineering	0	2
9. Reproductive Physiology	0	1
10. Farm Management and Production Economics	1	0
TOTAL	53	38

RSUST - Rivers State University of Science and Technology

Uni Calabar - University of Calabar

APPENDIX C

FUTURE EMPHASIS PERCEPTIONS OF SENIOR STUDENTS WHO NEVER STUDIED COURSES AND TEACHERS WHO NEVER TAUGHT COURSES

TABLE XXX

FUTURE EMPHASIS PERCEPTIONS OF SENIOR STUDENTS WHO NEVER STUDIED COURSES

A. AGRICULTURE MECHANICS AND SOIL SCIENCE

COURSES*	RSUST			UNI CALABAR			ALL STUDENTS			
	FE			FE			FE			
	N*	MEAN	C	N*	MEAN	C	N*	MEAN	C	R
1	29	4.17	M	20	4.35	M	49	4.24	M	2
2	43	3.81	M	24	3.79	M	67	3.81	M	4
3	30	3.87	M	22	4.18	M	52	4.00	M	3
4	25	2.80	S	18	3.17	S	43	2.95	S	8
5	12	3.25	S	10	3.50	M	22	3.36	S	6
6	20	3.30	S	6	3.83	M	26	3.42	S	5
7	18	3.11	S	13	3.62	M	31	3.32	S	7
8	6	4.17	M	10	4.70	VM	16	4.50	VM	1

B. AGRICULTURAL ECONOMICS, RURAL SOCIOLOGY AND AGRICULTURAL EXTENSION

COURSES*	RSUST			UNI CALABAR			ALL STUDENTS			
	FE			FE			FE			
	N*	MEAN	C	N*	MEAN	C	N*	MEAN	C	R
1	32	4.44	M	9	4.00	M	42	4.34	M	2
2	22	3.45	S	9	4.11	M	31	3.65	M	7
3	17	2.94	S	16	3.69	M	33	3.30	S	9
4	8	4.38	M	6	5.00	VM	14	4.64	VM	1
5	35	3.69	M	21	3.33	S	56	3.55	M	8
6	6	4.50	VM	6	3.67	M	12	4.08	M	3
7	31	4.23	M	27	3.67	M	58	3.97	M	5
8	31	3.90	M	6	4.00	M	37	3.92	M	6
9	24	3.92	M	4	4.75	VM	28	4.04	M	4

N=Number of responses on each category

KG=Knowledge gained

PC=Practical contents

FE=Future emphasis

RSUST=Rivers State University of Science and Technology

Uni Calabar=University of Calabar

R=Rank

C=Category

N*=Only indicates students who studied the courses. Responses from students not studying the courses can be found in Appendix C.

COURSES*=Courses appear as listed and numbered on the questionnaire in Apprendix C.

TABLE XXX (Continued)

C. ANIMAL PRODUCTION AND FOOD TECHNOLOGY

COURSES*	RSUST			UNI CALABAR			ALL STUDENTS			
	FE			FE			FE			
	N*	MEAN	C	N*	MEAN	C	N*	MEAN	C	R
1	24	2.54	S	20	3.15	S	44	2.82	S	2
2	22	4.41	M	21	4.29	M	43	4.35	M	1

D. PLANT PRODUCTION AND PROTECTION

COURSES*	RSUST			UNI CALABAR			ALL STUDENTS			
	FE			FE			FE			
	N*	MEAN	C	N*	MEAN	C	N*	MEAN	C	R
1	34	2.62	S	23	3.32	S	57	2.89	S	11
2	27	3.11	S	12	3.75	M	39	3.31	S	5
3	19	2.84	S	3	3.33	S	22	2.91	S	10
4	27	2.50	S	4	4.00	M	31	2.74	S	12
5	14	3.71	M	5	4.20	M	19	3.84	M	3
6	25	4.20	M	14	4.36	M	39	4.26	M	12
7	31	4.48	M	21	4.43	M	52	4.46	M	1
8	30	3.17	S	19	3.74	M	49	3.39	S	4
9	36	2.53	S	15	3.07	S	51	2.69	S	13
10	24	3.04	S	10	3.90	M	34	3.29	S	6
11	20	2.95	S	4	3.00	S	24	2.96	S	9
12	38	2.84	S	25	3.48	S	63	3.10	S	7
13	42	2.45	L	19	2.79	S	61	2.50	S	15
14	40	2.47	L	18	2.89	S	58	2.60	S	14
15	44	3.05	S	25	3.20	S	69	3.10	S	7

TABLE XXX (Continued)

E. STUDENT INDUSTRIAL WORK EXPERIENCE

COURSES*	RSUST			UNI CALABAR			ALL STUDENTS			
		FE			FE			FE		
	N*	MEAN	C	N*	MEAN	C	N*	MEAN	C	R
1	16	3.69	M	12	3.92	M	28	3.79	M	8
2	6	3.50	M	7	3.29	S	13	3.38	S	9
3	30	4.27	M	6	4.50	VM	36	4.31	M	3
4	28	4.14	M	5	4.60	VM	33	4.21	M	5
5	10	4.20	M	6	4.33	M	16	4.25	M	4
6	23	3.78	M	26	4.04	M	49	3.92	M	6
7	6	4.67	VM	9	4.44	M	15	4.53	VM	2
8	12	3.00	S	4	3.50	M	16	3.13	S	10
9	7	4.57	VM	5	4.60	VM	12	4.58	VM	1
10	39	3.74	M	19	4.05	M	58	3.84	M	7

F. GENERAL COURSES

COURSES*	RSUST			UNI CALABAR			ALL STUDENTS			
		FE			FE			FE		
	N*	MEAN	C	N*	MEAN	C	N*	MEAN	C	R
1	31	2.65	S	23	3.87	M	54	3.17	S	4
2	25	2.68	S	3	3.33	S	28	2.75	S	7
3	27	2.96	S	17	3.13	S	44	3.02	S	5
4	31	1.77	L	22	2.55	S	53	2.09	L	8
5	—	—	—	—	—	—	—	—	—	—
6	7	2.86	S	13	3.00	S	20	2.95	S	6
7	2	4.00	M	1	3.00	S	3	3.67	M	2
8	1	2.00	L	3	3.67	M	4	3.25	S	3
9	37	4.78	VM	20	4.37	M	57	4.64	VM	1

TABLE XXXI

FUTURE EMPHASIS PERCEPTIONS OF TEACHERS WHO NEVER TAUGHT COURSES

A. AGRICULTURE MECHANICS AND SOIL SCIENCE

COURSES*	RSUST			UNI CALABAR			ALL TEACHERS			
	FE			FE			FE			
	N*	MEAN	C	N*	MEAN	C	N*	MEAN	C	R
1	4	3.50	M	2	4.00	M	6	3.67	M	4
2	6	3.60	M	3	4.33	M	9	3.89	M	3
3	4	2.75	S	4	3.75	M	8	3.25	S	5
4	6	3.17	S	2	3.50	M	8	3.25	S	5
5	3	3.00	S	3	3.33	S	6	3.17	S	5
6	5	3.20	S	3	3.33	S	8	3.25	S	5
7	2	4.00	M	3	4.00	M	5	4.00	M	2
8	2	5.00	VM	2	3.50	M	4	4.25	M	1

B. AGRICULTURAL ECONOMICS, RURAL SOCIOLOGY AND AGRICULTURAL EXTENSION

COURSES*	RSUST			UNI CALABAR			ALL TEACHERS			
	FE			FE			FE			
	N*	MEAN	C	N*	MEAN	C	N*	MEAN	C	R
1	3	3.00	S	3	3.33	S	6	3.17	S	9
2	4	3.75	M	3	4.00	M	7	3.86	M	4
3	3	2.67	S	4	3.75	M	7	3.29	S	8
4	2	4.50	VM	1	4.00	M	3	4.33	M	2
5	3	3.33	S	4	4.00	M	7	3.71	M	5
6	1	5.00	VM	2	4.50	VM	3	4.67	VM	1
7	3	4.33	M	3	4.00	M	6	4.17	M	3
8	1	3.00	S	1	4.00	M	2	3.50	M	6
9	2	3.50	M	ALL TAUGHT			2	3.50	M	6

N=Number of responses on each category

KG=Knowledge gained

PC=Practical contents

FE=Future emphasis

RSUST=Rivers State University of Science and Technology

Uni Calabar=University of Calabar

R=Rank

C=Category

N*=Only indicates teachers who taught the courses. Responses from teachers not teaching the courses can be found in Appendix C.

COURSES*=Courses appear as listed and numbered on the questionnaire in Apprendix A.

TABLE XXXI (Continued)

C. ANIMAL PRODUCTION AND FOOD TECHNOLOGY

COURSES*	RSUST			UNI CALABAR			ALL TEACHERS			
	FE			FE			FE			
	N*	MEAN	C	N*	MEAN	C	N*	MEAN	C	R
1	2	3.00	S	3	3.67	M	5	3.40	S	2
2	2	3.50	M	3	4.67	VM	5	4.20	M	1

D. PLANT PRODUCTION AND PROTECTION

COURSES*	RSUST			UNI CALABAR			ALL TEACHERS			
	FE			FE			FE			
	N*	MEAN	C	N*	MEAN	C	N*	MEAN	C	R
1	6	3.50	M	3	3.20	S	9	3.36	S	9
2	2	3.00	S	3	3.00	S	5	3.00	S	11
3	1	3.00	S	1	3.00	S	2	3.00	S	11
4	3	3.67	M	3	3.50	M	6	3.60	M	7
5	3	4.33	M	2	3.00	S	5	3.80	M	2
6	3	4.00	M	4	4.25	M	7	4.14	M	1
7	5	3.80	M	3	3.60	M	8	3.70	M	5
8	4	4.00	M	3	3.33	S	7	3.71	M	3
9	3	3.00	S	4	2.50	S	7	2.71	S	15
10	2	3.50	M	4	3.75	M	6	3.67	M	6
11	3	3.33	S	4	3.25	S	7	3.29	S	10
12	4	3.00	S	3	3.00	S	7	3.00	S	11
13	5	3.00	S	4	3.00	S	9	3.00	S	11
14	2	3.50	M	2	3.50	M	4	3.50	M	8
15	5	3.00	S	4	3.00	S	9	3.00	S	11

TABLE XXXI (Continued)

E. STUDENT INDUSTRIAL WORK EXPERIENCE (SIWE)

COURSES*	RSUST			UNI CALABAR			ALL TEACHERS			
	FE			FE			FE			
	N*	MEAN	C	N*	MEAN	C	N*	MEAN	C	R
1	3	4.33	M	4	3.75	M	7	4.00	M	8
2	3	4.67	VM	3	4.00	M	6	4.33	M	4
3	4	4.25	M	2	5.00	VM	6	4.50	VM	3
4	3	4.67	VM	1	5.00	VM	4	4.75	VM	1
5	4	4.50	VM	3	4.00	M	7	4.29	M	5
6	1	5.00	VM	4	4.00	M	5	4.20	M	6
7	2	4.50	VM	4	4.00	M	6	4.17	M	7
8	3	3.33	S	3	3.67	M	6	3.50	M	10
9	2	5.00	VM	4	4.50	VM	6	4.67	VM	2
10	4	3.25	S	4	4.00	M	8	3.63	M	9

F. GENERAL COURSES

COURSES*	RSUST			UNI CALABAR			ALL TEACHERS			
	FE			FE			FE			
	N*	MEAN	C	N*	MEAN	C	N*	MEAN	C	R
1	2	4.00	M	3	3.33	S	5	3.60	M	3
2	1	4.00	M	2	3.00	S	3	3.33	S	5
3	1	4.00	M	3	3.00	S	4	3.25	S	6
4	6	3.50	M	3	2.67	S	9	3.22	S	7
5	1	4.00	M	2	4.00	M	3	4.00	M	1
6	1	2.67	S	4	2.50	S	7	2.57	S	9
7	1	4.00	M	3	3.33	S	2	3.50	M	4
8	1	3.00	S	3	3.00	S	4	3.00	S	8
9	3	3.33	S	4	4.00	M	7	3.71	M	2

VITA

Michael Ebewo Akpan

Candidate for the Degree of

Doctor of Education

Thesis: PERCEPTIONS OF SENIOR STUDENTS AND TEACHERS CONCERNING SELECTED COMPONENTS OF THE AGRICULTURE CURRICULUM IN TWO NIGERIAN UNIVERSITITES

Major Field: Agricultural Education

Biographical:

Personal Data: Born in Ekpenyong Atai, Ikot Ekpene, Cross River State, Nigeria, March 5, 1955, the son of Mr. and Mrs. Ebewo Akpan Ekpoette.

Education: Graduated from Holy Family College, Abak, Nigeria, in June, 1973; received Nigerian Certificate of Education from College of Education, Uyo, Nigeria, in June, 1977; received the Bachelor of Science in Agriculture degree from Friends University, Wichita, Kansas, in December 1982; received the Master of Education degree in Educational Administration and Supervision from Wichita State University, Wichita, Kansas, in May, 1984; completed the requirements for the Doctor of Education degree at Oklahoma State University, Stillwater, Oklahoma, in May, 1986.

Professional Experience: A teacher at Government Teacher's College, Nassarrawa, Plateau State, Nigeria, August, 1977 to July, 1978; a teacher and Head of Department of Science and Mathematics, Methodist Secondary School, Nto Ndang, Cross River State, Nigeria, August, 1978 to January, 1981.

Organizations: A member of the Nigerian Union of Teachers, Cross River State branch, and also a member of the Cross River State Science Teachers Association, August, 1978 to January, 1981.