COURSE CODE FSM 311

COURSE TITLE: Research methodology

NUMBER OF UNITS: 2 Units

COURSE DURATION: Two hours per week

COURSE DETAILS:

Course Coordinator: Dr. H. Adegoke Bakare

Email: bakare65@gmail.com

adegokebakarehenri@yahoo.com

Office Location: Room ……., COLFHEC

Other Lecturers:

COURSE CONTENT:

The Research process; concept development, focus and objectives, literature review,

methodology and experimental design, result analysis, research planning and execution,

results and data analysis, research report and technical writings

COURSE REQUIREMENTS:

Students are expected to participate in all the course activities and have minimum of 75%

attendance to be able to write the final examination.

READING LIST:

1. Agenta 21- Nigeria. E.\ Agenta 21 – Nigeria – Sustainable tourism. with subject:

Information to the event basis and the United Nations Commission on Sustainable

Development mat in Abill 1999. By Government Nigeria.

2. Experyong, A. J. O. ( ) Useful information for foreign visite. online Nigeria portal E:\

Nigeria- useful information for the foreign visitor.mht.

3. Graham, M.S. Dann and Giuli, L; Parrinello (2009). The Sociology of Tourism:

Europeans origin and developments. UK: Emerald Group Ltd.

4. Goeldner, C.R. and Ritchie, J.R.B. (2009). Tourism: Principles, practices,

Philosophies 11th

Edition: Canada: John Wiley & Sons pp 1-655.

5. Clark, T. (1990) International marketing and national character: a review and proposal

for an integrative theory, J Mark 54 (4) : 66–80.

6. Lilicrap, D. and Cousins, J.(2006) Food and Beverage Service. London: Hodder

Arnold. 7th

Edition. Pp1-100.

7. Marcini, M. (2004) Cruising: A guide to the cruise industry, 2nd edition, Florence,

KY: Thomson Delmar Learning.

8. Prideaux, B., Moscardo, G, and Laws, E. (2006). Managing Tourism and Hospitality

Services. USA: CAB International pp 1-355.

9. Reisman, D. (2006). Health Tourism: Social Welfare through International Trade.

USA: Edward Elgar Publishing Inc. pp 1-205.

10.Walker, J.R. (2007) Introduction to Hospitality Management New jersey: Person

Educational, inc. 2nd

Edition. Pp 1-120.

11. Ruxanda, G and Botezatu, A. (2008) Modeling tourism demand: a comparative study

between artificial neural networks and the Box–Jenkins methodology, Rom J Econ

Forecasting 9 (3) :30–5012.Woodside and Martins (2008) In: Arch Woodside and Drew Martin, Editors, Tourism

management: analysis, behaviour and strategy, CABI Publishing, Cambridge, MA

LECTURE NOTES:

INTRODUCTION

Research is a word derived from the French word 'echerche' meaning to search closely or

"chercher" "to look for". Research can therefore be defined as the search for knowledge for the purpose of solving or knowing more about a pre-identified problem. It could also be described as the process of carrying out systematic investigation to establish novel facts, solve new or existing problems, prove new ideas, or develop new theories, usually using a scientific method. However, apart from scientific methods there are other methods that uses suitable strategies solve research problems.

Research Methods

The goal of the research process is to produce new knowledge. This process takes three main forms;

☐ Exploratory research which structures and identifies new problems

☐ Constructive research which develops solutions to a problem

☐ , Empirical research which tests the feasibility of a solution using empirical evidence

Research methods may also falls into two distinct types: Primary and secondary researches, they involves collection of data that does not exist yet and summary, collation and/or synthesis of existing research respectively. It may also be Qualitative or Quantitative. The former involves attempts made to understand human behavior and the reasons that govern such behavior while the latter is concerned with systematic empirical investigation of quantitative properties and phenomena and their relationships. Others may also be classified on the basis of tools and strategies employed. Artistic research methods uses creative works to express ideas that cannot be fully expressed by scientific methodology. It accept subjectivity as opposed to the classical scientific methods, and uses qualitative research and inter-subjectivity as tools of measurement and critical analysis. Historical research uses historical methods to uncover facts relating to time and space. It employs techniques and guidelines by which historians uses information and other evidences from historical sources to research and to write history. These guidelines comes under common headings of external

criticism, internal criticism and synthesis. It also includes higher criticism and textural criticism. The following concepts are usually part of most formal historical research: Identification of origin date, evidence of localization, recognition of authorship, analysis of data, identification of integrity and attribution of credibility. Scientific research relies on the application of scientific method which provides scientific information and theories for the explanation of the nature and the properties of the matters and the world around us. It also makes practical applications of research finding possible. Scientific research can be subdivided into different classifications according to their academic and application disciplines.

Purpose of Research

Research may be broadly classified into two areas; basic and applied research. The primary purpose of basic research (as opposed to applied research) is to discover, interpret and develop methods and systems that can advance human knowledge on a wide variety of scientific matters. Applied research on the other hand, is concerned with the transformation of outputs of basic research into visible technological tools that can be used to advance the conveniences of man.

Generally, research is understood to follow a certain structural process. Though step order may vary depending on the subject matter and researcher, the following steps are usually part of most formal research, both basic and applied:

1. Observations and Formation of the topic

2. Formation of Hypothesis

3. Articulation of conceptual definitions

4. Operational definitions

5. Gathering of data

6. Analysis of data

7. Test, revising of hypothesis

8. Conclusion, iteration if necessary

A common misunderstanding is that by this method a hypothesis could be proven or tested. Generally a hypothesis is used to make predictions that can be tested by observing the outcome of an experiment. If the outcome is inconsistent with the hypothesis, then the hypothesis is rejected. However, if the outcome is consistent with the hypothesis, the experiment is said to support the hypothesis. This careful language is used because researchers recognize that alternative hypotheses may also be consistent with the observations. In this sense, a hypothesis can never be proven, but rather only supported by surviving rounds of scientific testing and, eventually, becoming widely thought of as true. A useful hypothesis allows prediction and within the accuracy of observation of the time, the prediction will be verified. As the accuracy of observation improves with time, the hypothesis may no longer provide an accurate prediction. In this case a new hypothesis will arise to challenge the old, and to the extent that the new hypothesis makes more accurate predictions than the old, the new will supplant it.

Characteristics of Scientific research

1. Objectivity: Inferences and conclusion drawn from the study should be free from personal or perceived biases

2. Reliability:

3. Reproducibility

4. Verifiability

5. Empirical

Research involves an eclectic blending of an enormous range of skills and activities To be a good researcher, you have to be able to work well with a wide variety of people, understand the specific methods used to conduct research, understand the subject that you are studying. Research in Vocational and technological disciplines are usually Applied in nature. Applied

research is a blend of both theoretical and empirical concepts. It is theoretical because it is concerned with developing, exploring or testing the theories or ideas that researchers have about how the world operates. But it is also empirical, meaning that it is based on observations and measurements of reality. Applied research is also concerned with the general case (nomothetic) rather than the individual. We often study individuals, but usually we are interested in generalizing to more than just the individual. The inferences that wemake in applied research have probabilities associated with them (probabilistic). They are seldom meant to be considered as covering laws that pertain to all cases. This is a reason for the prominence given to statistics in applied research because it allows us to estimate probabilities for the situations we study. Most research in the field are interested in looking at how our causes (e.g., programs, treatments) affect the outcomes of interest cause-effect relationships. This does not implied that most studies actually study cause-effect relationships. There are some studies that simply observe, for instance, survey research seeks to describe the number of people holding a particular opinion. Explorative research studies relationships. Probably the vast majority of applied social research consists of these descriptive and correlational studies. it is important that we go beyond just looking at the world or looking at relationships. We would like to be able to change the world, to improve it and eliminate some of its major problems. If we want to change the world (especially if we want to do this in an organized, scientific way), we are automatically interested in causal relationships. There are three basic types of questions that research projects can address; Descriptive study is designed primarily to describe what is going on or what exists(e.g. to know about the population of women that would embrace exclusive breast feeding of infants for the next one year), Relational study is designed to look at the relationships between two or more variables(e.g. gender and perception about breast feeding) while Causal study is designed to determine whether one or more variables (e.g., a program or treatment variable)

causes or affects one or more outcome variables(e.g. effect of exposure to nutrition education curriculum at secondary school on perception about breast feeding practices).

STEPS IN RESEARCH PROCESS

1. Identification of Research Problems

This involves Identifying existing problems in an area of study (e.g. Home Economics), identification of the problem area and the specific problem within the area. Generally research is directed towards three cumulative problems; Descriptive when a study is designed primarily to describe what is going on or what exists, Relational when a study is designed to look at the relationships between two or more variables, Causal when a study is designed to determine whether one or more variables (e.g., a program or treatment variable) causes or affects one or more outcome variables.

2. Effective Review of Literature

The main purpose of literature Review is to clarify some fundamental concepts involved in the study, to find out, what other people have done in the area under study, and the gaps to be filled up. Literature review should provide theoretical background or framework to the study. It should address all the key concepts involved in the study.

Sources of Literature materials: Primary source: Information obtained directly from the author/researcher through some of the following sources ; archeological evidence, journal articles, interviews obtained through Newspaper, Radio and Television programmes, Videophone, Internet system and oral interview.

Secondary sources: Information from compiled from primary sources like text books, Encyclopaedia, featured articles in newspapers, documentary programmes on radio, television, internet etc. They are compiled information from Primary sources.

Reasons for conducting Literature search

☐ Provision of theoretical frame work for the study.

☐ To know the state of knowledge.,

☐ Acquaintance with problems encountered by previous researchers.

☐ Know the methodology and tools employed in solving the previous related problems.

☐ Addressed all the key concepts involved in the study

☐ Identification of research variables that are relevant and of importance to the study.

☐ To facilitate interpretation of outcomes of research findings.

Tips on effective literature search

☐ Identify and list topics and sub-topics that are relevant to the study and to variable of interest to the research problem.

☐ Identify materials that can provide the information above

☐ Search for relevant titles in books, journal articles, book of abstracts to locate your facts and concepts.

☐ Document your sources of facts/information.

3. Research Plan and Design

Plans for research should take into consideration the following; design of the study, area of the study, population of the study, Sample and sampling technique, identification of instrument to be used for collection of data, description of instrument for data collection, validity of the instrument, reliability of the instrument, Utilisation/Administration of the instrument and scoring of the instrument, Methods to be used for data analysis.

Design of the study refers to the pan, structure, and strategy the investigator wants to adopt in order to obtain answers to research questions and probably test hypotheses formulated for the study. it also includes the outline of the investigator's plan in relation to the analysis of data. Various types of designs may be used either singly and in combination, depending on the nature of research problems. They include; Survey,Experimental, Quasi Experimental, Ex Post Facto, Descriptive, Observational, Historical, Causal-comparative, Correlation, Evaluative.

Area of the study It is necessary to identify and describe briefly in your research report the area where the study would be conducted. It might also be necessary to justify the use

of the area for the study. Such Justification should point to use of the area as a one that would enhance the validity and reliability of the study. This could be in relation to political, geographical, educational, cultural or economical homogeneity.

Population of the study A population is any group of individuals, objects, events that have one or more characteristics which are of common interest to the researcher. It is meant to identify subjects that would provide accurate and reliable information for the study. Subjects could be human beings, objects, events or phenomena. Identification of population is necessary for the determination of areas where the results or findings of the study will be generalized. Population is the group (theoretical population) you wish to generalize to as this is the group you would like to take your sample (accessible population) from because this is the group you are interested in

Sample a study is the proportion of a population selected for observation and analysis with a view to making inferences to the population. In selecting a sample, the investigator must; ensures that he is not biased. In other words, he should do his sample at random in order to give every subject equal and independent chances of being selected for the study. Sample should be sufficiently large enough to serve as a representative of the population. If he is assigning subjects to treatment groups, he should employ random assignment. This will help him make valid generalization of the findings. Investigators should select suitable sampling options that suits his/her study. These includes; Simple random sampling , systematic sampling (This is appropriate where a population has been listed accurately and categorised subsets of that population is to be selected randomly), stratified sampling (Applicable where the population is made up of smaller homogeneous groups that need to be represented in the study in order to obtain accurate information e.g. in a population different attributes like religious affiliations, socio-economic status and other characteristics as sex, age, academic qualification etc., It would

be necessary to sub-divide the population into smaller groups as such characteristics will constitute a source of difference in opinion, attitude or perception of the population. Cluster sampling (Where the population is large and widely scattered so that the investigator finds it convenient to select clusters or groups at random and all the members studied), Sequential sampling (The researcher selects at random successive smallersamples and studies them until there is no need for further samples). Double or multi

stage sampling (Here sampling is done in stages, e.g. one can sample education in the state and within an education zone, schools may be sampled and within the schools, teachers or students are sampled). In Purposive sampling, sampling is done by convenience. This sampling technique is usually unscientific as a single object or event is selected for sampling.

Selection of appropriate instruments/Validation of the Instrument

It is important to ensure that instruments measures what they are designed to measure. In social science research it means validating instrument designed for data collection to ensure that it measures what it is designed to measure. The initial draft of the instrument (usually questionnaire or check list of items) is usually given to a panel of experts in the field of study for face validation. Following a series of validation stages, there may be a need for the modification of the instrument prior to pilot testing. When a test instrument is used, there may be a need for establishing the content validity of the instrument. After the validation of the instrument, it is pilot-tested on a similar but smaller sample. The essence of the pilot testing is to find out how the respondents will react to the instrument. After the pilot testing there may be a need for the modification of the instrument. Investigator in social sciences must report how he validated and pilot-tested his research instrument. Applied natural Scientists often use pre-designed standardised physical instruments with established precision consistencies. Such instruments only requires simple calibration

before use but adequate training is necessary for competence and skills in the use of such instruments.

Reliability of the Instrument The reliability of an instrument or a test is the degree to which a test or an instrument is consistent in measuring whatever it purports to measure. In other words, it is the degree to which the test or the instrument measures the same thing after time and item after item. The index of reliability is usually expressed as a coefficient reflecting the extent to which a test is free of error variance. The error of variance can be defined as the sum effect of the chance difference between persons which arises from factors that are associated with a particular measurement. The closer a reliability coefficient is to the value of 1.00 the more reliable the instrument hence the more reliable the test is free from error variance. Researchers use different method to establish the reliability of their instruments depending on the type of data collected.

Administration of the Instrument Investigators are expected to describe briefly how

the instrument was administered on the respondents- whether personally or by mail. In the case of questionnaire, the researcher should specify the number of copies of the questionnaire distributed and the number returned hence the percentage return.

Scoring of the Instrument. This section could be integrated into the next-method of data analysis, as it is merely concerned with how the data was organized. For example, indicate that the frequencies of the responses were worked out and the percentages calculated. Where rating scales are used, indicate the ratings examples as four-point scale and Likert-type scales.

Examples of scoring methods is provided below:

(a) Strongly agree: Agree: Disagree Strongly Disagree

(b) Very satisfied: Satisfied: Moderately Satisfied: Dissatisfied

(c) Very adequate: minimally Adequate: Inadequate

(d) Very important: important: Somewhat Important: Not Important

(e) Outstanding: Very good: Good: Fair: Poor

(f) To a very great extent: To a good extent: To a Moderate extent: To a poor extent: To a

poor extent.

Likert scales are five-point scales with the middle scale being a condition of neutrality.

Example, Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree. Because the use of undecided creates a problem in research as the position or stand of respondent on the issue is not clear, researchers should avoid using it. Where rating scales are used, under this section, the numerical values assigned to the ratings must be indicted.

Example:

Strongly Agree 4

Agree 3

Disagree 2

Strongly Disagree 1

Mention must be made at this stage of any special features involved in scoring the responses.

For Example, in some situations, negative and positive statements are made on the same issue

and are rated using the same rating scale.

An example is given below.

Rate the following statements on your attitude to Home economics along the rating scales –

Strongly Agree, Agree, Disagree, Strongly Disagree.

STATEMENTS

RATING

STRONGLY

AGREE

AGREE DISAGREE STRONGLY

DISAGREE

1. I love FSM 207

2. I wish FSM 207 is

not included in

Foodservice and

☐

☐

Note that the first statement is positive and the second negative. In collating the data, the rating, 4,3,2,1, for strongly agree, Agree, Disagree and strongly Disagree are adopted for No. 1 question. If a respondent ticks agree, the score is 3. For number 2 statement which is negatively framed, the scoring will be reversed to convert the statement to positive. Thus Agree as indicated becomes disfavour for FSM 207 which is Disagreement and therefore, the numerical rating is 2. In reporting, statements that were reversed during scoring should be identified.

Investigators should endeavour to use appropriate rating scale. It is not appropriate to answer research questions that relate to "extent" with a rating scale dealing with "agreement /disagreement". To measure extent, descriptions indicating the degree of extent should be employed. Other rating scales used in social sciences are the Equal Appearing Interval Scale or the Thurstone scale, the cumulative scale or Guttman scale and Endorsement scales.

Method of Data Analysis

The investigator must identify and specify in the report, the statistical tools he employed for data analysis. He must ensure that he employs appropriate statistical tools in order to get valid result. Two types of statistics are the disposal of the researcher for data analysis- the descriptive statistics and the inferential statistics.

If the researcher is concerned with answering research questions he should use descriptive statistics such as proportions/percentages, mean, median, mode, standard deviator, and a variety of procedures to graphically illustrate the composition of a group such as charts, bar graphs,

histograms and frequency polygons. If he is concerned with testing hypotheses, then he should use inferential statistics such as chi-square (x2), analysis of variance (ANOVA),

analysis of covariance and t-test. If, however, the researcher is concerned with research

questions and hypothesis, he should use both descriptive and inferential statistics. The choice of the type of inferential statistics to use depends on the types of data collected.

Table 2

below shows types of data and the statistical tools appropriate for their analysis.

Table 2

Types of Data and statistical Tools Appropriate for their Analysis

Type of Scale Appropriate Statistics

Nominal Frequencies, mode, coefficient of

contingency, chi-square

Ordinal All those for nominal scales plus median,

centiles, rank-order coefficient of correlation

(Spearmen).

Interval Same as nominal and ordinary plus all

common statistics such as mean, standard

deviation pearson product moment

correlation, t, z tests analysis of variance.

Ratio All those for interval scales plus coefficient

of variation and references such as twice or

three times, etc.

The variation types of research already described in this chapter are usually aimed at

achieving one or more of the following three objectives:

(a) To describe subjects, social phenomena;

(b) To describe differences between two or more samples of subjects;

(c) To describe relationship between or more educational variables.

The various types of research and the statistical tools appropriate for reporting these are discussed in further

In this section, the statistical tool used should not only be mentioned but justified and explained. The explanation does not imply defining the term but explaining where the statistical tool is used in the study indicating any specific application. For example, instead of mentioning that correlational methods were used, specifically mention that student's grades in Mathematics in continuous assessment converted to scores were correlated with their Mathematics Grades in Junior Secondary Certificate Examination using Product moment correlation. An example of brief introduction is given below.