

**INTRODUCTION TO RESEARCH - RESEARCH MEANING, DEFINITION,
OBJECTIVES, RECENT TRENDS IN RESEARCH IN VARIOUS
DISCIPLINES OF HOME SCIENCE, INTER AND INTRA DISCIPLINARY
RESEARCH APPLIED TO HOME SCIENCE**

1. 1 Meaning of Research

Research is a systematic process of doing an investigation in order to explore something and establish the underlying facts and truth and finally arrive at new conclusions.

Words synonym to Research (action verbs) are investigate, study, find out, determine, compare, verify, calculate, describe, establish, enquire, probe, explore, analyse, examine, scrutinize, inspect, review, identify and assess

Research includes any creative work undertaken on a systematic basis that favours increase in the knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications. It is used to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support theorems, or develop new theories. A research leads to expansion on past work in the field. Research projects can be used to develop further knowledge on a topic and also on a research project. They can be used to prepare the researchers for future employments or higher level in academic career. Research work helps to test the validity of instruments, procedures, or experiments, and they may reflect elements of prior projects. The primary purposes of any basic research (as opposed to applied research) are documentation, invention, interpretation, or the research and development (R&D) of methods and systems for the advancement of human knowledge.

Research includes defining and redefining problems, formulating hypothesis or specific solutions; collecting, organizing and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions

***Paper Code and Title: H16RM Research Methodology and Statistics for Home
Science***

Module Code and Name: H16RM01 - Introduction to Research

Name of the Content Writer: Dr. G. P. Jeyanthi

There are several forms of research - scientific, humanities, artistic, economic, social, business, marketing, practitioner research, life, technological, etc.

The word *research* is derived from the Middle French "*recherche*". It means "to go about seeking".

1.2 Definition of Research

Research has been defined in a number of different ways.

A broad definition of research is given by Godwin Colibao: "In the broadest sense of the word, the definition of research includes any gathering of data, information, and facts for the advancement of knowledge."

Another definition of research is given by John W. Creswell, who states that "Research is a process of steps used to collect and analyze information to increase our understanding of a topic or issue". It consists of three steps: pose a question, collect data to answer the question and present an answer to the question.

The Merriam-Webster Online Dictionary defines research in more detail as "a studious inquiry or examination; especially investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws".

1.3 Objectives of Research

Any research work should be an organized and well planned investigation. A correct solution should be arrived for a problem for which a clearly defined work plan is framed. The first step for any researcher in attempting a research work is to identify the correct objectives whose results are the final product.-what the researcher achieves in the end of the study. The objectives should be closely related to the statement of the study problem.

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Objectives are framed for full focus on the study, to avoid collection of unnecessary data, to organize the study in clearly defined parts or phases, to properly formulate and develop the correct methodology, to orient collection, analysis, interpretation and utilization of data.

General Objectives

1. to get respectability
2. to be of service to society
3. to get intellectual joy of doing some creative work
4. to face the challenge in solving the unsolved problems
5. to get a research degree along with its consequential benefits

Major objectives

1. to gain familiarity and achieve new insight into specific research
2. to portray accurately the characteristics of a particular individual situation or group
3. to discover the truth and fact about a problem
4. to determine the frequency with which something occurs
5. to test hypothesis of cause and effect relationship between variables
6. to understand social life and gain a control over social behaviour
7. to study and resolve contradiction in the area of a study

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8. to put forward an entirely new theory and concept
9. to explain unexplained horizon of knowledge
10. to reach more conclusions from available data
11. to find new conclusion with already collected data
12. to know old conclusions with new data and information

Specific Objectives

Short term and narrow in focus

Small logically connected broken parts of general objectives

Guidelines for Statement of Objectives

- ✚ Should be brief and concise
- ✚ Should cover the different aspects of the problem and other contributing factors in a coherent way and in a logical sequence
- ✚ Should be realistic considering the local conditions

1.4 Recent Trends in Research in various disciplines of Home Science

1.4.1. Home Science Education

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The concept of the subject Home Science in Higher Education is dependent on the objective of increasing the development of the community through every home.

This can be brought about through systematic use of natural resources and manpower. Home Science can play an important role in the making of better human beings with good characters and spirit. Development in science and technology may help for this purpose. The ultimate goal of Home Science is to bring up homes enriched with peace, prosperity and progress. Women empowerment has emerged as an important issue and forms the underlying theme of Home Science

1.4.2. Evolution of Home Science discipline in Colleges and Universities

Evolution of Home Science discipline is a new area of science. In the beginning Home Science was referred to as Domestic Science. The princely state of Baroda was one of the first states to introduce Home Science in Schools, in Maharani Girls High School. The subject remained in the school curriculum in several states. After won independence India in 1947, many changes were brought about in its curriculum. In the sixties and seventies, Home Science and related subjects were fused together at the school level. A stream was developed at the higher secondary level in Gujarat and some other states. Gradually Home Science became a popular subject in Delhi, Uttar Pradesh, Madhya Pradesh and some southern states. But courses were not offered at the college level at that time. Hence many institutions faced problems of providing further opportunities for students who completed Home Science at the secondary level. In 1932 Home Science was started at the college level at in Lady Irwin College at Delhi. From 1938 onwards Madras University offered Home Science at the degree level. Queen Mary's College and Women's Christian College at Madras started Home Science in 1942. The Agricultural Institute of Allahabad also started a Home Science Diploma course in 1935. In 1945 it turned into a University Department. By 1950 Baroda became a significant nucleus of Home Science education. Since 1950 outstanding Home Science Colleges were started at Coimbatore (Tamil Nadu) Ludhiana (Punjab) Bombay (Maharashtra) New Delhi, Udaipur (Rajasthan) and Tirupathi (Andhra Pradesh) In the mid 1960's and 1970's Agricultural Universities

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were established in most of the states. Teaching of Home Science was recognized in most of the Agricultural Universities. There is a steady progress of Home Science education in India at the school and college levels. In 1920 only few students enrolled in Home Science. By 1980's many prestigious institutions in India offered B. Sc, M. Sc and Ph. D degrees in Home Science. At present thousands of post graduates and Ph. D degree holders are in prominent positions in prestigious institutions all over the country. Home Science has now been claimed to be one of the important subjects in the school curriculum because it offers the fundamental opportunities to develop their best for promoting society.

1.4.3. Areas of Specialization in Home Science

There are different areas of specialisation in Home Science. Each branch offers post graduate courses and facilities for research. The major areas in Home Science are • Human Development • Family and Community Resource Management • Food and Nutrition • Food Service Management and Dietetics • Textile Science • Extension Education

Human development deals with the development of a child from conception to old age. Physical, motor, emotional, language, cognitive and social developments of human beings are included in this. Behavioural problems of children, exceptional children, disorders, specific problems and issues that hinder the development of human beings are also dealt with. Geriatrics is also a part of the study since the life span of an individual is longer today.

Under Family and Community Resource Management, time, money, energy and space management are the main topics for study. A good time plan is essential for time management. For money management resources have to be utilised judiciously. A family budget fulfils this aim. Energy management is a difficult task as the activities in a person's life is different from another individual. Energy management study aims at reducing the amount of energy required for doing each work. A work simplification technique enables this process. Consumer education is also included under this subject. The consumer is provided with information regarding food safety,

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safety against adulteration, common adulterants, health hazards and Consumer Protection Act. Major principles and basics of design and arts are also detailed in this area.

In Food and Nutrition food science and nutrition are included. Chemistry of food, nutrient retention, sources of nutrients, nutritive value of food and judicious mixing of food are scientifically instructed in food science. Nutrition imparts the knowledge of various nutrients, their composition, functions, sources, requirements and deficiency status.

Textile Science includes all details about textile fibres and fabrics, fabric construction processes namely spinning, weaving, printing, dyeing etc. Basic principles of apparel designing and construction are also taught.

In Extension Education, basics of programme planning, preparation of audiovisual aids, social work, applied nutrition, methods of communicating with the society are included.

Research avenues in these disciplines are abundant.

1.5 Inter and Intra disciplinary Research applied to Home Science

Home Science is a branch of Science that blends both Science and Arts and establishes the fundamental unit of the society, i.e., the Home or the Family. A Home is the place where the development of an individual begins that overflows with love and care of not only the members of the family but also of the external members and surroundings associated and linked with the activities of a home. A woman plays a pivotal role in all these developmental activities. If she is enlightened, the whole family gets illuminated thereby enriching the society as a whole.

Womanhood blossoms in the female individuals as they grow up, naturally trained by their mothers and grandmothers in traditional ways. However, in this scientific era, homemaking has emerged out to be a systematic process of teaching and learning with inputs of global scenario and novel innovations.

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The study of Home Science covers all walks of life through its branches-Resource Management, Food Service Management and Dietetics, Food Science and Nutrition, Textiles and Clothing, Human Development and Extension Education. Apart from developments in the academic side, research has seen great innovations, discoveries and applications in these branches of Home Science. Analysis of these scientific perspectives with focus on both intra and inter disciplinary approaches is the need of the hour which will be of great help to social workers, academicians, researchers, policy makers and stake holders in the Higher Education scenario. Home Science emerges as a discipline fast developing and advancing in all its curricula in the different branches incorporating potential life skills required to mould the future home makers to face the challenges of real life situations and interrelationship with the communities.

Applied arts and design, child care, human development, foods and nutrition, home management, house keeping and etiquette, housing, household equipment, hygiene, institutional management, retail and consumer studies and women studies are the different fields in which researchers are putting their efforts applying scientific knowledge and technical advancements to bring about new revolutions to suit the needs of the modern era.

Energy , money and time management techniques are the focus themes in the field of Home Management. New techniques and technologies have been developed. Energy management includes both human and non human energy. Non human energy covers both conventional and non conventional energy. At the household level, energy demand solving technologies like biogas plants, energy saving chullahs and solar cookers are some of the findings of various researches in this field. Ergonomics, interior design and consumer product design are some fields of latest interest to researchers. Smart buildings, green buildings, commercial and social landscaping ,environmental health and user friendly strategies in industrial development including introducing and improvising new techniques and equipment using latest technology as

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a challenge to drudgery in agricultural, domestic and industrial activities are areas of interest for researchers in Home Management.

Researches are in progress in the design of garments reflecting the culture and footwear to suit the body dimensions of individuals. Home textiles, products from waste cotton, innovations in dyeing and printing, augmenting the durability of cloth, antibacterial property of fabrics, enzymology and textile industry, eco-textiles, eco-friendly dyes, Special designs and nature of fabric to suit for specific garments to be used in sports, hospitals extreme climatic conditions and for neonatals, elderly are some of the latest research areas in textiles. Pollution abatement studies have taken a dimension related to textile industry with special reference to environment protection and human health surveillance.

Food Science and Nutrition and Food Service Management and Dietetics focus on research areas like functional foods, nutraceuticals, nutritive value of selected foods, novel foods rich in nutritive value, value added foods, food supplementation studies, food processing, preservation and packaging, hospital, restaurant and hotel management, diet and diseases, software programmes for diet counselling, culinary skills, food adulteration, agricultural practices for augmenting the yield of products, genetically modified foods, assessment of sensory properties and physico-chemical properties of foods, community nutrition, intervention programmes, food consumption pattern in selected areas, malnutrition, pharmacological potential of medicinal plants, meal replacement studies, food fortification, emerging risks of obesity, hypertension, metabolic diseases and advanced techniques and methods in food analysis.

Extension education has research issues like rural development, literacy programmes, empowerment of rural women through self help groups, implementation and assessment of development programmes introduced by the government, women in social media and local governance, income generation activities for rural women,

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SWOC analysis of women entrepreneurs and extension activities and field work on areas from the other disciplines of Home Science .

Research activities in all the disciplines of Home Science thus seem to involve academic input, elements in the society, field work, household aspects, contribution from industries and governmental and nongovernmental organisations. The next few modules in this series give details on various types of research namely descriptive research, analytical research, applied research, fundamental research, qualitative research, quantitative research, conceptual research, empirical research, longitudinal research, laboratory research, historical research and explanatory research.

Definition of the different types of research, objectives, merits and limitations, review of literature ,primary and secondary data collection methods, methods of data presentation, hypothesis testing, appropriate tools for statistical analysis, interpretation of the results and report preparation are elaborately discussed in the various modules in Research Methodology paper.

