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by Dwi Astuti Wahyu Nurhayati

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Research Methodology

Dwi Astuti Wahyu Nurhayati

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Diterbitkan oleh:
Akademia Pustaka
Perum. BMW Madani Kavling 16, Tulungagung
Telp: 081216178398
Email: redaksi.akademia.pustaka@gmail.com
Website: www. akademiapustaka.com

Preface

Research can be defined as, "A systematic inquiry to describe, explain, predict, and control the observed phenomenon."

Research is very useful since it can help us to determine the development of knowledge in specific areas. Moreover, it can help the teacher to solve certain problems. Also, by conducting research, it can develop students' knowledge. Therefore, research is important.

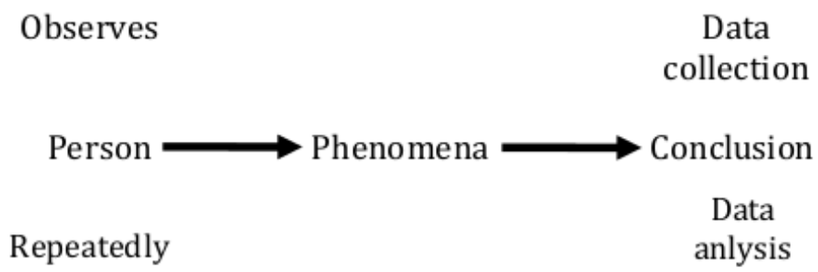
This book is not complete edition to cover all research methodology materials. There is a lot of lack in this book. Therefore, criticism and suggestion will be gladly accepted.

List of Contents

CHAPTER 1
RESEARCH METHODOLOGY

A. TERM RESEARCH

Morphemes that compose the term research are 're' and 'search'. The prefixes're' means again or back, while the root 'search' means seek to find something. Look at the process below:



Thus, the word research means to study or observe something repeatedly from various aspects. As an illustration, there are several theories of teaching English since the study from various aspects. When doing a research, the researchers should gather the data to draw the conclusion of the research.

The research is designed for the finding of correlation which happens among phenomena in this world. The important theory is that balanced correlation appears between specific priorities and specific results in case under a certain group of circumstances, specific results can be required to observe the opening of a gifted priority.

B. RESEARCH DEFINITIONS

Accrording to Singh (2007), there are several experts who have defined what research is. They are Rusk, George J. Mouly, Francis G. Cornell, Clifford Woody, C. C. Crawford, John W., James Harvey Robinson, V. Redman and A. V. H.

Mory, C. Francies Rummel, P. M. Cook, W. S. Monroe, R. M. Hutchins. Look at the following table:

According to...	**Research is...**
Rusk	"A way of thinking, an aspect of study or an attitude. It questions some problems that have not been questioned up to now and it also tries to find out the answer by doing some obvious steps. It is not a pure hypothesis, but on behalf of an effort to bring facts and to encounter them as they have been gathered. In addition, the research is not an effort to enhance presumed assumptions. Also, it indicates a preparation to get the conclusion whither a question leads, even if unwanted they may result. As the research is successful, it expands scientific understanding of the topic."
George J. Mouly	"The systematic and scholarly application of the scientific method interpreted in its broader sense, to the solution of the social studiesal problems; conversely, any systematic study designed to promote the development of social studies as a science can be considered research."
Rancis G. Cornell	"To be sure the best research is that which reliable, verifiable, and exhaustive, so that it provides information in which we have confidence. The main point here is that research is, literally speaking, a kind of human behaviour, an activity in which people engage. By this definition all intelligent human behaviour involves some research." "In social studies, teachers, administrators, or other engage in

	'Research' when they systematically and purposefully assemble information about schools, school children, the social matrix in which a school or school system is determined, the characteristic of the learner or the interaction between the school and pupil."
Clifford Woody	"A particularly question or analysis in investigating principles or facts; an active observation to determine something. This definition explains the fact that research is not purely a search for the truth, but an extended, deep, purposeful one. In the last investigation, research develops a way for finding the truth which is truly a way of thinking. Research includes explaining and re-explaining questions; making hypotheses or giving explanations, gathering, arranging and surveying data; drawing conclusions and speculating; and finally, thoughtfully examining the results to verify if they relate to the formulating hypotheses."
C. C. Crawford	"A systematic and refined techniques ofthinking, employing specialised tools, instruments, and procedures in order to obtain a more adequate solution of a problem than would be possible under ordinary means. It starts with a problem, collects data or facts, analysis these critically and reaches decisions based on the actual evidence. It evolves original work instead of mere exercise of personal. It evolves from a genuine desire to know rather than a desire to prove something. It is quantitative, seeking to know not only what, but how

	much, and measurement is therefore, central feature of it."
John W.	"Reseach is considered to be the more formal, systematic, intensive process of carrying on the scientific methods of analysis. It involves a more systematic structure of investigation, usually resulting in some sort of formal record of procedures and a report of results or conclusions."
James Harvey Robinson	"Research is but diligent search with enjoys the high flavour or primitive hunting."
Encyclopaedia of Social Science	"The manipulation of things, concepts, or symbols for the purpose of generalizing to extend, correct, or verify knowledge, whether that knowledge aids in the practice of an art."
V. Redman and A. V. H. Mory	"A systematized effort to gain new knowledge."
C. Francies Rummel	"An endavourto discover, develop, and verify knowledge. It is an intellectual process that has developed over hundreds of years, ever changing in purpose and form and always searching for truth."
P. M. Cook	"An honest exhaustive, intelligent searcing for facts and their meanings or implications with reference to a given problem. The product or findings of a given piece of research should be an authentic, verifiable and contribution to knowledge in the field studies." P. M. Cook also underlines the characteristics of research. They are: a) Research is an honest and exhaustive process.

	b) The facts are analyzed with knowledge. c) The facts are found in the light of question. Research focuses on problem. d) The results are accurate and provable. e) Research has to provide new knowledge in the field.
W. S. Monroe	"A method of studying problems whose solutions are to be derived partly or wholly from facts. The facts dealt with in research may be statements or opinions, historical facts, those contained in records and reports, the results of tests, answers to questionnaries, experimental data of any sort, and so forth. The final purpose of research is to ascertain priciples and develop procedures for use in the field of social studies, therefore, it should conclude by formulating principles or procedures. The mere collection and tabulation of facts is not research, though it may be preliminary to it on eve a part thereof."
R. M. Hutchins	"Research in the sense of the development, elaboration, and refinement of principles, together with the collection and use of empirical materials to aid in these processes, is one of the highest activities of a university and one in which all its professors should be engaged."
J. H. McGrath and D. E. Watson	"A process which has utility to the extent that class of inquiry employed as the research activity vehicle is capable of adding knowledge, of stimulating progress and helping society and man relate more efficiently and effectivelyto

	the problems that society and man perpetuate and create."

C. COMMON CHARACTERISTICS OF RESEARCH

From the definitions that you have read previously, it can be summarized that the characteristics of research are:

1. Research collects data from the first sources.
2. Research pays attention to the finding of common rules.
3. Research is an accurate, logical, and scientific investigation.
4. Research works with provable data collecting instrument.
5. Research is relevant and objective.
6. People who do research (researchers) oppose the attraction to search only the data which bolster their hypotheses.
7. Researchers eliminate individual thoughts and desires.
8. Reseach endavors to manage data in significant term.
9. Research is not done in hurry.
10. Researchers are willful to do the process to the results that may be unwanted and cause public criticism.
11. Research is thoughtfully documented and reported.
12. Results and generalization are presented thoughtfully and cautiously.

Research is an activity to collect, analyze, and interpret facts to solve problems. Nevertheless, to classify as research, the procedures should have settled

characteristics. It should be controlled strict, systematic, accurate and provable, empirical, and critical. To make you more understand about these characteristics, read the following explanations!

1. Managed

Several causes affect on results. Being able to connect the influence with the cause and in reverse is very essential in a study of cause and effect. The idea of control means that in investigating arrange the work in a method which reduces the impacts of other causes impacting the relationship. It is available in physical sciences, while in social science those controls are not. Thus, efforts are made to figure their effect.

2. Strict

It very impotant for you to be rigorous in confirming that the process done to solve problems is signficant, proper and verified. Moreover, the scope of rigor changes between the physical sciences and the social ones.

3. Systematic

This idea means that the process followed to attempt an exploration follow a rational order. The unsimilar stages can not be taken in an unconcerned method. Several processes should follow others.

4. Accurate and provable

This idea means that whatsoever you decide on the rest of your findings is accurate and can be confirmed by you and others.

5. Empirical

It means that whatever results made are built on strong proofs collected from facts gathered from real live experience or investigations.

2

6. Critical

Critical analysis of the processes used and the techniques applied is important to a research problem. The investigation process should be reliable and strong. The process followed and the steps applied should enable to confront critical analysis.

D. BASICALLY FOR STUDY RESEARCH

1. The use of research
   a. Pure research
   b. Applied research
2. The depth of data analysis
   a. Descriptive
   b. Explorative
3. The measurement and data analysis
   a. Qualitative
   b. Quantitative
4. The use of sample
   a. Cencus
   b. Inferential (population)
5. The design of the research
   a. Experimental
   b. Non-Experimental

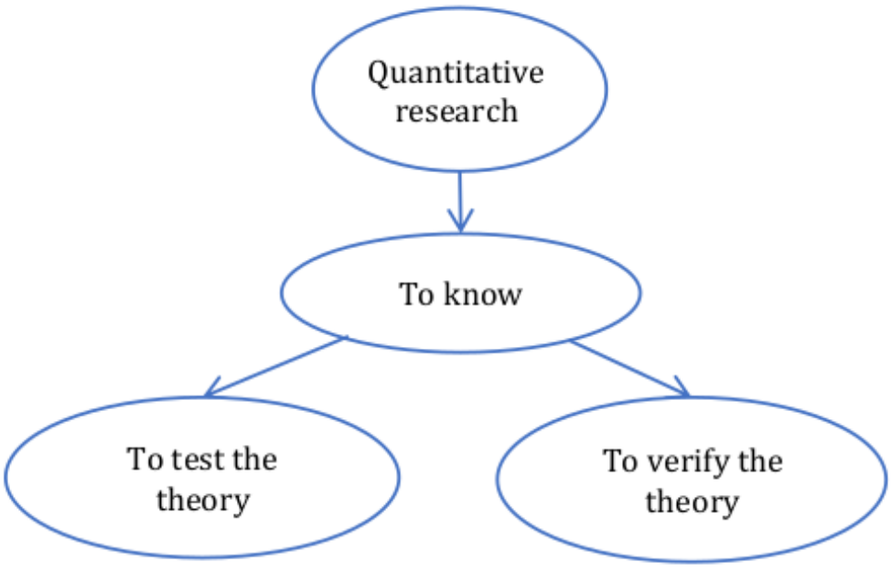
6. The scope or area
    a. Historical
    b. Language
7. The place or setting of the research
    a. Laboratory research
    b. Field research

E. THE ROLES OF RESEARCH

There are several roles of research. They are:

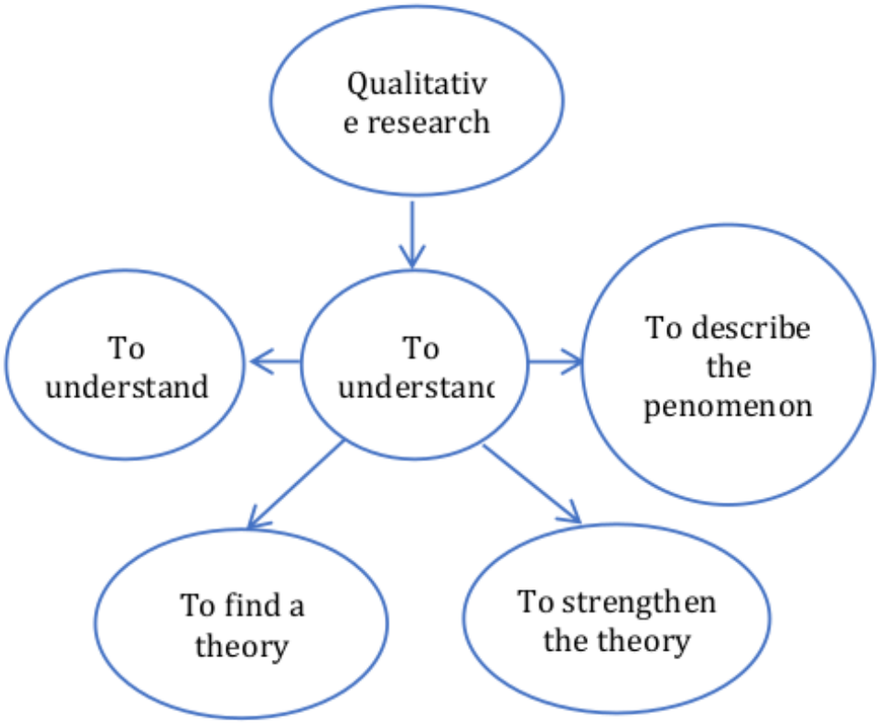
1. Enhancing reseach process through clarification and extension of knowledge. The clarification of the current knowledge or the addition of knowledge is important since it can be used to enhance the social studiesal method.
2. Helping to determine the clarification or development of knowledge in specific areas.
3. Developing students' knowledge.
4. Helping the teacher to solve the problems in the classroom.
5. Improving the teaching methods that are used by the teacher in the classroom.
6. Developing the social studiesal theory.

It should be remembered that the researchers must enhance the the theory and study process synchronously. Moreover, it has to be thought as a useful instrument that the researchers can use to enhance the process.



According to Bogdan and Biklen (1998; 2003, p. 38), in quantitative research, the researchers think how to solve the problems in a research based on the theory (research hypothesis). It aims to attest theoritical hypotheses. Therefore, its purpose is to attest theories.

In quantitative research, the researcher attempts to understand a research topic without creating theoritical guesses. Current theories do not control everything that the researchers must do to understand the research topic. All resulted from the investigation and the study will be admitted as findings. In other words, the theories are created openly from results of the investigation of the research topic and the study of the results of investigation (Bogdan and Biklen, 1998, 2003, p. 38). It means that the researcher have to understand a research objec to strengthen the theory, not to answer the theories.



Here are some differences between quantitative research model and qualitative one.

No.	Quantitative	Qualitative
1.	Verifying Theory	Generating Theory

2.	Fixed Research Problems	Flexible Research Problems
3.	Manipulated Setting	Natural Setting
4.	Numerical Data	Verbal Data
5.	Representative	Authoritative
6.	The Same Source of Data	Many Different Sources of Data
7.	One Technique	Many Different Techniques
8.	Non Human Instrument	Human Instruments
9.	One Data Gathering Instrument	Many Different Instruments
10.	Linear of All Steps of Research	Circular Steps
11.	Deductive	Inductive Way of Drawing Conclusion
12.	Focus on Product	Focus on Process
13.	Generalization	Transferability

To make you more understand about the differences between quantitative research model and qualitative one, read the following explanations!

1. Verifying vs. Generating Theory

In quantitative research, a researcher predicts the answer to the research problems based on theory (hypothesis), it means that the goal of the quantitative research is to verivy the theory. But, in qualitative one, the theory is generated freely from the result of observation of the research object and analysis of the observation result.

2. Fixed vs. Flexible

In quantitative research, the research problem becomes fixed and the researcher has to stick that

research problem with the process of the research to get the answer to the problem. In qualitative one, research problems are usually defined in a general way. The more focused research problems are usually made after the research has been started, when some collected data have been analyzed.

3. Manipulated vs. Natural

In quantitative research, data are resulted from a formal assesment. This kind of assesment is is usually done effectively in experimental manipulated. But, in qualitative one, the gathering data using naturalistic observation or authentic assesment, in the setting in which the data naturally occurs involving those who would naturally take part in the activities.

4. Numerical Data vs. Verbal Data

In quantitative research, the data that are gathered representated numerically, while in qualitative one, the data are gathered and documented in description, not numbers or symbols.

5. Representative vs. Authoritative

In quantitative research, sources of data are assumed to be heterogeneous, having different variations, each of which has equal right to represent the group. Since the population of the sources of data is usually big and so only a sample can be taken, then the best sample is the one that is most representative to the population. In qualitative one, sources of data assumed to be heterogeneous. The trustworthy source of data does not come from representation of different group of the sources but selected based on specific principles to discover the most accurate one.

The source in qualitative research is usually called informant.

6. The Same Source vs Many Different Sources of Data

In quantitative research, data are collected from the same group of sources. In qualitative one, when personality is involved as one of the variables, the data on personality are assesed from many different sources as possible; from their parents, from their neighborhood, from their diaries, etc.

7. One Technique vs. Many Different Techniques of Data Gathering

In quantitative research, data are collected using one data collection technique. In qualitative one, when personality is involved as one of the variables, the data on personality are assesed using as many as possible different data collection technique, like interview many informants, observation, etc.

8. One Data Gathering Instrument vs. Many Different Instruments

In quantitative research, since the source of data representing population in quantitative research tends to be in big number, or otherwise not representative, only one data collection intrument. In qualitative one, data are taken from many different sources, but each source is in a small number because it is not the representativeness of a sample that counts, but the authoritativeness that comes from the source selected based on certain criteria.

9. Non Human Instrument vs. Human Instrument

Since quantitative researchers assume that well-developed instruments can be used to collect valid data, they can rely so much on their instruments. They have to develop their instruments can be administered by anybody. That's why this instrument is called non-human instrument, an instrument that can run by itself to collect data. While qualitative one the researcher collects and analyzes data simultaneously to draw a temporary conclusion and repeats the cycles several times, deciding what data needs to be collected again to verify their temporary conclusion. Therefore, the researcher has to be involved himself in the process of data collection using all kinds of necessary instruments.

10. Linear vs. Circular

In quantitative research, all steps of research are done in a linear order, one step is followed with another step, or one step becomes the pre-requisite for the following step, from the very beginning to the end. In qualitative one, the process is not linear, but circular, going back and forth from one step to the previous step in a circular way.

11. Deductive vs. Inductive

A deductive method commonly starts with a theory and it generally follows quantitative research. Unlike a deductive method, an inductive one commonly uses research problems to narrow the field of the study and it frequently follows qualitative research.

12. Product vs. Process

In quantitative research, the study always focuses on the relationship between variables, like the causal relationship between teaching media and students' achievement, the correlation between students reading skills and their writing skills, or on a survey like opinions of students towards the Policy of their Rector. In qualitative one, the research's focus is not the results of the process, but the process itself.

13. Generalization vs. Transferability

In quantitative research, the significance of the finding as resulted from the analysis of data collected from the sample depends on how much it can be generalized to be the population represented by the sample. In qualitative one, the source selected is the most authoritative, so the concern is not the generalization of the finding, but the transferability to another setting or to other subjects (Bogdan and Biklen in Latief, 2012, p. 78-86)

F. PARTUCULAR CHARACTERS OF RESEARCH

Here are some particular characters of research:

1. A sound philosophy of social studies as the basis of research

Robert R. Rusk examines, "In the application of scientific procedure to social studies a sound philosophy as well as a sound commonsense must be involved to save the scientific procedure from itself (Singh, 2007, p. 5)."

2. Research is based on insight and thought

The same author thinks, "Social studies by its reliance on research must never fail to realize that in addition to its practical practitioner and skilled investigators, it stands in need of men and women of imaginative insight, who look beyond, he presents and beholds the vision splendid. If the vision should fade into the light of common day, not only will the people perish, but research itself will become a sterile futility (Singh, 2007, p. 5)."

3. Research requires an inter-disciplinary approach

Research is not a pure explanation of basic and unusual information of nature. It should be related to the study of puzzling relations of different information. It needs an interdisciplinary approach.

4. Research commonly employs deductive reasoning process

According to 'Nature and Functions of Research' that is written by E[illegible] Hylla, the attitude generally uses techniques of description, explanation, interpretation, sympathetic or intuitive understanding techniques that are generally speculative and deductive in character and which uncommonly provide results which can be subjected to measurement or mathematical procedures.

5. Research must come out of a desire to do things better

According to Stephen M. Corey, "Better social studiesal implies better improvement or conception of pedagogical goals, better encouragement of students, better teaching techniques, better

assessment, and better administration, these are operations or activities (Singh, 2007, p. 5).

6. Research is not as exact as research in physical science

All people are different from each other. According to H. C. McKown "In the whole world there are probably no two things exactly alike similarly no two human beings are alike, they differ physically in size, weight, height, colour of eyes and hair texture of skin and in a thousand other detailes as well as in thousands of details of mental, social and spiritual life." This fact stands in the method of making research as an exact science.

7. Research is not the field of the specialist only

According to W. C. Redford, "In sum, I believe the teachers in every country have the opportunity and the capacity to undertake some research. Such research, carried out in the day-to-day work of the school, should be concerned directly with the problems of that school. It can properly concern itself with such matters as child development, class organisation, teacher-pupil relationships, interaction with the community, curriculum matters, teaching techniques, and many others (Singh, 2007, p. 6)."

Moreover, in an article called "Can a teacher do research?" written by V. V. Kamat states, "Any teacher with commonsense, intelligence, and insight can undertake research in a problem. In the beginning, such workers may require some guidanceand training, but this can be made easily available to them at the hands of experts (Singh, 2007, p. 6)."

8. Research usually requires economical materials

In research, we commonly require subjects, in other words kids, their social studiesal instruments of daily use, and a pen-and-paper test.

9. Research is based on the subjectivity and intangibility of social phenomena

According to Lundberg, "The concrete phenomena may be acknowledged straightly through sense, while social phenomena are acknowledged only significantly through words describing phenomena like culture, habit, belief, values, and subjective worlds (Singh, 2007, p. 6)."

10. Research maybe cannot be dealt through empirical method

Lundberg states, "Exact science tends to become increasingly quantitative in its units, measures, and terminology while most of the matter of social science is quantitative and does not admit of quantitative statement. We can talk about urbanisation, cultural assimilation, and so on, but we cannot measure quantitatively. We may talk of growing indiscipline, but unless we can measure it, unless we can ascertain the degree of indiscipline, we cannot find a perfect cure (Singh, 2007, p.6)."

Furthermore, Mitchell says, "Even in the work of the most statistically minded, qualitative analysis will have a place. Always our measurements, the pre-conceptions shape our ends, our first glimpses of new problems, our widest generalisations will remain qualitative in form (Singh, 2007, p.6)."

11. Research is based on inter-dependence of causes and effect

In relation to a social phenomena, the cause and the effect are correlative and one moves each other. Thus, it is hard to find like to what the cause is and what the fore effect is. According to MacIver, "Social science until now has suffered very much from the effort to make it conform to technique derived from the organization and more abstract sciences. It has guided us to search unreasonable results and to be unsatisfied with not gaining them. We analyze, as an illustration, after the aspect of physical sciences which of the two connected social phenomena is cause and which the effect. It commonly turns out in the social realm, that both are causes and both are effects (Singh, 2007, p.6)."

12. Research cannot be a mechanical process

Symonds states that research is, "not something that can be ground out as by a machine. Research can never be made a mechanical process. There is no problem worthy of study that does not include unknown elements and does not require a fresh approach and attack. Too much of the research done by students in recent years has smaked of the mechanical of merely following the methods and the procedures of some predecessors without clear insight, into the problem itself or the methods to be used in attacking it. Much of the research in social studies that is being published fails to receive recognition because it lacks that spark of originality that must accompany an attack on a new problem. Research methods and techniques can be taught, but after they are mastered there is still the problem of attacking a new problem and genuine contribution to social studies cannot be made without the willingness

to pioneer into new fields or to work out new procedures. Genuine research must be an exploration. Any student who wishes to undertake research in social studies must be willing to take venture into the unknown and only by doing so he will be bring back the fruit of genuine discovery (Singh, 2007, p.7)."

The criticism of research, Hugh B. Wood states: "Every year about a thousand young men and women go off justly neglected corners of knowledge and assemble tiny scraps of more or less useless information into a little pile of dust, which, adopted with comparative tables, correlative graphs, and other forms of academic is served up as a thesis. The reward is the little of Doctor of Philosophy, which enables its recipient to ascend the social studies as ladder and in time teach other young men and women to scrap together their own heaps of dust or doctoral dissertations (Singh, 2007, p.7)."

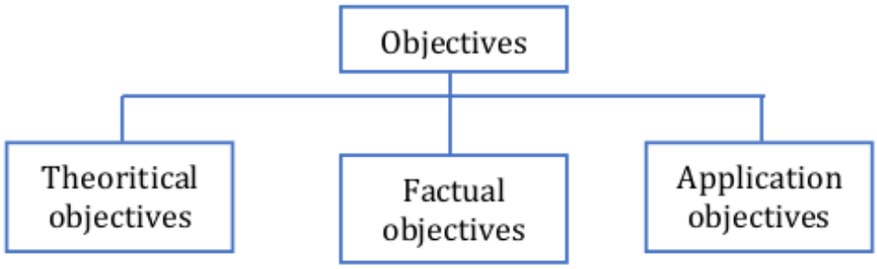
Basic Assumption of Research:

1. That very phenomenon in the universe in tide by certain rules or laws (orderly) and it exists in regularity. No chaos in the universe.
2. That human beings are able to go with all roles and regularity in the universe.
3. That every phenomenon (substance, condition, and process) does not occur by chance or coincidentally, there is or are a cause or causes and it effects or effect toward another phenomenon.

4. That a scientific knowledge is just able to describe the happened thing really provided that the knowledge is empirical.

G. OBJECTIVES OF RESEARCH

The objectives can be defined as the goals that you arrange to succeed in your research. It is very essential to phrase the obectives acutely and accurately because they tell the readers about what you intend to attain through your research. Here are three objectives of a research:



1. Theoritical Objectives

Researches that have this kind of objective develop new theories and rules. These researches are explanatory since they explain the relationships of certain variables. They also provide several fundamental understanding to the human understanding. The disciplines that have theoritical objectives for their researches are Mathematics, Physics, Chemistry, etc.

2. Factual Objectives

Researches that have this kind of objective discover new information. These researches are descriptive since they describe information or events that occured formerly. This kind of research is done in the past.

3. Application objectives

Researches that have this kind of objective do not provide new understanding to the human understanding. However, they do provide new applications. What mean by applications here are development and correction in practice. As an illustration, in case that someone gives a new electricity application, this kind of study has the application objective.

The principal goal of researches is to discover the buried facts. All researches have their own goals to be accomplished. Thus, research objectives can be chiefly categorized into academic and utility objectives.

1. Academic objectives

This kind of objective is related to the improvement of new ideas and addition to old ideas. It can be concluded that the motive of the knowledge is the principal component in this kind of research objectives.

2. Utility objective

This kind of objective is related to the use of the research, as research work, and as research is accepted for more use to the public. The researches that have this kind of objective should present accomplishment in attending organizational objectives.

Like you have read before, the research presents the basis for the investiation by which the relations between two variables can be built. Induction and deduction are only possible in systematic research.

The principal aspect that improves the decision-making ability is observation. Gathering data is involved in the research process and presently along these fundamental goals of research can also be categorized into:

3. Decision-making objectives

This kind of objective is affected by research. Things based on the research conducted are the project identification and implementation. There is no work rule that is not influenced by the findings of research. Controlling, that is the particular job in the administration, can be arranged efficiently through research work.

4. Environment objectives

Every decision in any work is taken in affiliation to the atmosphere in which work performs. Every factor influencing work such as investor, state, customer, worker, and contention needs systematic investigation before making decisions.

5. Marked objectives

This kind of objective is known as market research. It involves the market portion of products, profit margin of the arrangement and whole sales volume of the association. On the basis of the accurate observation of the accessible facts, appropriate market methods can be drawn in regard to new product improvement, product selling method and product adjustment.

6. Client objectives

The clients' needs are evaluated, well earlier even before the products are projected. The use of products is determined on the basis of the feature of products. Relating to the demands of the clients. The questioning is done to identify the clients' amusement levels.

7. Profit and promotion objectives

A major companies profit addition is the principal goal to be attended by them. It needs observations and examinations to be done. The survey is done as well to attain the variables in support of the business work. The research offers strong basis for that work. Improvement of business matter is based on combined representation that is result of the connections between the companies internal and external aspects.

H. NATURE OF RESEARCH

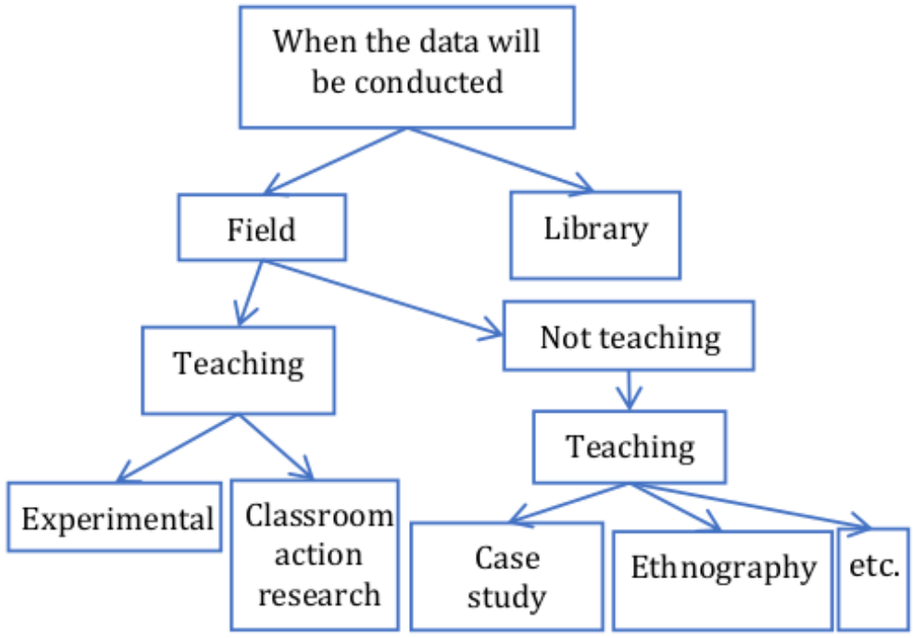
Research is process in which comprehensive study of the research questions are accomplished. It needs observation to be done based on collected data and its understanding and performance.

Research is doe correctly since it is very essential in the process of decision-making. There is no research work that does not provide knowledge. That research involves critical analysis of information that brings about organization of new ideas ormodification of the old ones.

The research work will support us in examining theories and building the connection between variables so that we can determine the techniques to solve the problems of the research.

The research the process of finding facts that affects the decisions to me made. The research offers an occasion as well to make sure the efficiency of the decisions made. It is a systematic process and is needed to be done in appropriate orders, that involves activities right from recognition of research problems, conception of hypotheses, examining of hypotheses, investigation and connection of variables and drawing of conclusions.

It is a scientific activity with the existing rules or procedure to get correct knowledge on a certain problem. The gotten knowledge can be in the forms of a fact, a concept, generalization, and a theory.



I. IMPORTANCE OF RESEARCH

Research work is important since it results all improvement and advance in this world. The improvement of thought is developed by conducting research work.

Research offers basis for the rules organization of the Government connected with industries, agronomy, and the services of the infrastructures.

In this background observation in the system of economy is done through collection of data and investigation of information. To predict the expected chances of the region, the research is needed.

Moreover, research is important to help us solve seveal problems of industries and business. The operation, market, and motivation researches are attended in the business for different qualifications.

Lastly, research is important in solving problems in social and political areas.

J. APPLICATION OF RESEARCH

Although research is broadly applied all around in business for outlining, forecasting, and making decision. However, research can lose its application of business competition in public. Thus, it is a nomal thing for not having competition in under developed countries. Moreover, it can be thought as satisfaction and be abandoned in public. Research can become more appropriate in the situation where the problems in the business competition becomes complicated.

Another application of research is that it builds the relationships between variables and functional fields. It becomes an appropriate device for rorecasting. Also, it offers help for the best application of the accessible resources. When the foundation and utilization of procedures and methods are based on the research work, they will become more efficient.

Lastly, research helps the thinking process, investigating and understanding the situations of the business since it is the principal source in making decisions. Research offers basis for the changes of product improvement and modification.

K. LIMITATIONS IN RESEARCH

Although research has many advantages and importances, there are several limitations in research. In public, social research is subject to changes. When the social organization changes, the decision made cannot be actualized as it is. There are some other aspects that affect the decisions. If those aspects are not investigated accurately, the decision will be biased.

Occasionally, the controls are not serious as well about the application of the decisions made. the research will be inappropriate when the business work are carried on the base of habits and cultures.

The research work is vary high-priced. Thus, it cannot be practicable for small and average range group to gain benefits of the facilities.

L. RESEARCH PROCESS

Since all research work different from one another either time or place where the research is done, there are different approach to research activity. Nevertheless, every research work will have general knowledge of public and have general moves of how the research is done.

In consideration of having appropriate research work, all research work should have research problems analyzed. The research process will be composed of certain goals that must be affirmed acutely and there must be a

hypothesis that should be resulted right or wrong. Moreover, every research work will have research model that signifies against how data will be gathered, investigated, and understood.

The research process is composed of groups of different activities that are very important to the research project. It involves every stage needed to accomplish the research project. It should be specific aimed moves includedin doing research project.

Understanding that there is no particular series or built sequence whither research project is accomplished is important. Thus, in research process there are particular guidances in relation to moves included research project.

Here are some moves or stages of research process:

1. Systematize problems of the research
2. Gain the framework facts
3. Make clear the search subject matter
4. Acknowledge the research alternative
5. Choose proper tools
6. Apply the tools efficiently
7. Set the materials
8. Investigate the materials set
9. Arrange and jot down the report
10. References and biography

The moves that are mentioned previously depend on one another. It is sure from the previous moves of the research process that are described as the following:

1. Systematization problems of the research
2. Study of the current literature
3. Composition and improvement of hypotheses

4. Development of research model
5. Deciding sample model
6. Data involves
7. Work accomplishment
8. Data analysis
9. Examining hypotheses
10. Data understanding
11. Report of the research project

Here are some explanations of those moves to help you more understand about them:

1. Systematization problems of the research

Problems of the research relate to problem statements and relationships between two variables under study. First, the research should recognize the problems, then it should select the problem. It helps the researchers determine common field of interest or topic. Thus, the researchers are supposed to have appropriate understanding about the next moves before performing the former moves. The research process is a structure of connected moves. It is important for the researchers to understand the dissimilarity between the method and the process of the research.

2. Study of the current literature

Without examining of the current literature may be theoritical or practical character, the research cannot be done.

The theoritical literature is relevant to the idea on theories, while the practical literature is relevant to the current study of the corresponding character

already done. The analysis of the current study presents basis to understand how to design study.

3. Composition and improvement of working hypotheses

The next move is that the researcher should explain the hypotheis. Hypothesis can be defined as common beliefs that are the basis of the research that may be unconfirmed in character.

4. Development of research model

Then, the researcher should develop the research model. In case that a plane on a theoritical form in its bound research should be conducted. The research model is developed with a goal of gathering appropriate data with the least possible of struggles and the least possible of applications, just to manage wastefull applications.

5. Deciding sample model

The research acomplishment is chiefly based on appropriate recognition of the model to be determined for the study, the technique for determining is generally called as sample model. This is a model scheme determined before later is gathered from given society. Here are some examples:

a. Intentional model

It involves intentional choice of model that performs the whole world.

b. Simple random model

It is managed by possibility, there are same occasions for every item of the world to be chosen.

c. Systematized model

It is the easiest and the most systematic sampling method. This is covered under the methods of possibility model.

d. Layered model

It is a method of possibility model as well that is applied for the society not having similar association.

e. Quota model

It is a method of non-possibility model. Quota model is acknowledged as judgment model.

f. Cluster model

It is a method of possibility model. Cluster relates to a group and in this model, the society is gathered firstly, after that particular group is chosen for the research.

g. Area model

It is similar to cluster model while geographical range under the study is pretty large than the whole range is broken down into nonoverlapping small range.

6. Data collection

The data gathered as for each the qualification of the reseach, it can be the first or or the second in character. In case that the second is acceptable enough to solve the research problem, then gathering the first data is not essential. Proper data is the principal requirement of the research. The researcher can gather the basic data by doing examination, questioning and evaluation, sampling and schedule.

7. Work accomplishment

Work accomplishment is the essential step in the research process. This has to be accomplished in a arranged aspect. Thus, regular and particular examination is important to verify the data that is gathered.

8. Data analysis

After gathering the data, it is important to analyze the signification of the research goal. The gathered data is processed by different movements. Thus, to make the raw data relevant, those movements may support the researcher draw appropriate conclusions.

9. Examining hypotheses

Next, the researchers should examine the hypotheses so that they are able to identify information to agree or disagree with the hypotheses.

10. Data understanding

After that, the researchers have to draw common conclusions so they are able to reach the statement-making. The researcher skill is chiefly based on their abilities in statement-making.

11. Report of the research project

The last move that the researcher should do is writing the report. The research project should be reported and the researcher should write the report systematically. The research report generally has to be composed of:

a. Introductory section
b. The main part of the report
c. The conclusions of the report
d. References

Here are some dissimilarities between research method and research process:

Research method	Research process
1. Organizing, investigation of facts required	1. Chose the general subject matter. Overcome the subject matter representation
2. Identification and evaluation of probable resources	2. Organize the problems to attend the research project
3. Determining and placing the particular resource	3. Discover, investigate, and valuate resources
4. Testing and choosing the particular resource	4. Valuate, involve the proof, arrange the biography
5. Documenting and collecting facts	5. Draw the conclusion and arrange the facts
6. Understanding and investigating the facts	6. Undestanding and investigation
7. Form presentation and communication	7. Produce and introduce the research results
8. Valuation of task	8. Consideration sufficient presentation

After we have discussed the dissimilarities between the research method and the research process, now we are going to talk about the dissimilarities between quantitative, qualitative, and combined methods. Here are their dissimilarities:

Quantitative method	Qualitative method	Combined method
Predetermined	Emerging techniques	Predetermined and emerging techniques
Restricted queries	Unrestricted queries	Restricted and unrestricted queries
Performance data, manner data, experimental data, and stats data	Interview data, investigation data, report data, and audiovisual data	Various data models on all probabilities
Stastical analysis	Text and image analysis	Statistical and text analyses
Analytical understanding	Ideas, patterns understanding	Beyond data collections understanding

M. CATEGORIZATION OF RESEARCH

Research has two stages, they are the fundamental and applied stages. The stage that the research conduct is based on the research objectives.

1. Fundamental stage

   This stage is purposed to sum a structured part of understanding and it does not certainly present findings of present realistic benefits.

2. Applied stage

   This stage of researce is used to resolve present realistic problems and the aim of summing the understanding is less important.

The general error is to think that stages are dissimilar in accordance with complication and such fundamental research tends to be complex and applied research. Several applied researches are completely complex and several fundamental researches are fairly simple.

N. KINDS OF RESEARCH

1. Based on the research objectives

Based on the research objectives, research is divided into basic and applied research.

2. Based on the research approaches

Based on the research approach, research is divided into:

a. Longitudinal research: Historical research, case study, genetic comes under longitudinal approach of research.

b. Cross sectional research: Experimental research, survey are the examples of cross sectional research.

3. Based on the accuracy of the research findings

Based on the accuracy of the research findings, research is divided into experimental and nonexperimental researches. The experimental research is accurate, while nonexperimental one is not.

4. Based on the nature of results

Based on the nature of results, reasearch is dividided into:

a. Explanatory research: The research explains more concerned theories of rules and standards. It is to examine a theory or hypothesis in order to strengthen or even reject existing theories or research hypotheses.

b. Descriptive research: It focuses on the fact.

5. According to National Science Foundation

National Science Foundation divides reasearch into:

a. Fundamental research: Such research that embraces basis analysis for the improvement understanding.
b. Applied research: It can be distinguished as application in practice.
c. Development research: It is the application of understanding for the presentation of valuable devices, materials, models, methods for processes excluding model and presentation engineering.

6. Other categorizations

a. Adhoc research: It is the group of examination applied for a significant goal.
b. Empirical research: It depends on the investigation of phenomena and events.
c. Explained research: It is based on theories.
d. Boarder line research: It includes two principal divisons of science.

O. TYPES OF RESEARCH

Kinds of research objectives are theoritical, factual, and application. The theoritical and factual objectives provide new knowledge in theory and fact forms in a specific area of study. The application objective does not provide new knowledge, but offers new utilization for applied problems. Therefore, such research is categorized

chiefly into basic or fundamental research and applied or action one.

1. Definition of applied research

According to Stephen M. Corey defines applied research as, "The process by which practitioners attempt to study their problems scientifically in order to guide, correct, and evaluate their decision and action is what a number of people have called applied research (Singh, 2007, p. 9)."

Corey states, "Applied research is a process for studying problems by practitioners scientifically to take decision for improving their current practices (Singh, 2007, p.10)."

Sara Blackwell says, "Research concerned with school problems carried on by school personal to improve schools practice is applied research (Singh, 2007, p.10)."

Mc. Threte adds, "Applied research is organized, investigative activity, aimed towards to study and constructive change of given endeavour by individual or group concerned with change and improvement (Singh, 2007, p.10)."

Here are several characteristics of the applied research:

a. It is a process of studying practical problems of social studies.
b. It is a scientific procedure for finding out a practical solution of current problem.
c. The practitioner can only study his problem.

d. It is a personal research for clinical research work.
e. The focus is to improve and modify the current practices.
f. The individual and group problems studied by applied research.
g. It does not contribute to the fund of knowledge.

2. Applied research origin

The applied research idea based on the "Modern Human Organization Theory". The organization theory here focuses on the task and relationships. It believes that the one who can make decisions and solve the problems is the organization worker. In the organization, he makes particular interests, attitudes, and values. Thus, organization workers must get occasions to analyze and solve the problems so that they can develop and adjust their work.

The organization efficiency relies upon the workers' skills. Workers should face several problems and be able to understand problem pressures. Experts are only able to analyze and solve the problems of the existing disciplines. It will become effective if the workers get their independences in enhancing and adjusting the practices.

Also, the applied research origin is acknowledged from the psychology and social psychology areas. Kurt Lewin describes life scope in terms of person and objective. There is an obstacle in between person and objective. The person should defeat the obstacle to reach the objective. Reaching the objective relies upon

the person's skills. The objective manages the activities of the person. Experts should face such type of situation.

Since 1926, the idea of applied research has been used in Social Studies. The first idea of applied research has been introduced in Backingham's book "Research for Teachers". However, the first person who used this idea to solve problems was Stephen M. Corey.

3. Applied research process

Every research work is not conducted by the traditional thinking, but the reflective one. The functional thinking work in order. The research process is made from reflective thinking.

Here is the research process:

a. Choosing the problem

First, the problem should be chosen and interpreted. The problem pacticability relies upon its restrictions. Thus, the problems are bound in this stage as well.

b. Formulation of hypotheses

Several uncertain explanations are given for the problems, when those explanations are relied upon particular reason they are known as hypotheses. Thus, the hypothesis is formulated in this stage.

c. Model of research

The hypothesis is ruled to evidence. A model of research is built up to gather the data so that the resercher can examine the hypothesis. This

includes technique, method, and sample of research. Proper techniques and methods are chosen for this intention.

d. Data gathering

Investigations and research devices are regulated on the topics and their reactions are marked. Therefore, the collected data are managed in tabular form.

e. Data analysis

The proper analytical methods are used to analyze the data so several decisions can be taken about the hypothesis. The findings are used in drawing the conclusions.

f. Drawing conclusions

The last step is drawing conclusions in the form of new facts, theories, information, and solutions for the applied problems.

Both basic and applied researches use such process. Nevertheless, there are some big differences between the two that will be discussed later.

4. Applied research objectives

The applied research is carried on for attaining these goals:

a. To improve the working conditions of school plant.
b. To developthe scientific attitude among teachers and principals for studying their problems.

c. To developthe scientific attitude among students and teachers for understanding and solving their problems.
d. To bring excellence in school workers.
e. To develop the ability and understanding among administrators to improve and modify the school conditions and make it more conductive to learning.
f. To root out the traditional and mechanical environment of school.
g. To make the school system effective for generating a healthy environment for student learning.
h. To raise the level of performance and level of aspiration of the students.

5. Fields of applied research

a. He should have knowledge of his work roles and activities.
b. He should have the reflective thinking of different aspects of his work.
c. He has to be responsive against his work.
d. He has to be creative.
e. He has to have knowledge and foundation of applied research.
f. He must have knowledge of his field.
g. He must have the scientific manner in analyzing and investigating things.
h. There should be objectivity in his thinking.
i. His behavior should be democratic. The applied research design should not intervene the activities of other teachers of school activities.

j. The most important characteristics are the patience and pursuant of the investigator.
k. He should have knowledge and skill of measuring instruments and elementary statistics.
l. He should have open minded so that he can discuss his problems with his colleagues and experts of the field to have correct picture of the problem.
m. He should have an urge to bring about excellence job economic performance.
n. He should be economical in designing the project from time, energy, and money point of view.

The applied research work can be projected in these fields of Social Study:

a. In improving and modifying the classroom teaching strategies, tactics, and teaching aids.
b. In developing interests, attitudes, and values of the students towards their studies.
c. In dealing the classroom problems and school problem relating to discipline and code of conduct.
d. In assigning the homework so that students should take interest in completing them.
e. In improving the spelling errors and wrong pronunciation.
f. In dealing with the problems of poor attendance in class as well as in school and comming late in school.
g. In developin the habit of completing class notes and active participation.

h. In removing the practice of copying in examination.
i. In solving the personal problems of students relating to school situations or poor adjustment.

6. Investigator characteristics

Good researchers should have these characteristics:

a. In improving and modifying the classroom teaching strategies, tactics, and teaching aids.
b. In developing interests, attitudes, and values of the students towards their studies.
c. In dealing the classroom problems and school problem relating to discipline and code of conduct.
d. In assigning the homework so that students should take interest in completing them.
e. In improving the spelling errors and wrong pronunciation.
f. In dealing with the problems of poor attendance in class as well as in school and comming late in school.
g. In developin the habit of completing class notes and active participation.
h. In removing the practice of copying in examination.
i. In solving the personal problems of students relating to school situations or poor adjustment.

7. Steps of applied research

Here are steps in conducting applied research:

a. Problem identification
b. Interpreting and specifying problems
c. Analysing the problem's causes
d. Formulation of the applied hypothesis
e. Model for examining applied hypotheses
f. Drawing conclusion

8. Applied research model

To conduct applied research, NCERT (National Council of Educational Research and Training) suggests the following steps and substeps:

Step	Substep
a) The work subject matter	a) The work background
b) The work goals	b) The work importance
c) The work structure	c) Problem identification
d) The work evaluation	d) Interpreting and specifying problems
e) Application evaluation for the work	e) Applied hypothesis formulation
f) Institution's name, number of learners who registered the field	f) Examining the applied hypothesis
g) Number of teachers in various courses	g) Drawing conclusion
h) The accessible school facilities for the work	h) Declared by the researcher

After the researcher conduct the research, he should write the report for his research.

9. Experimental project of applied research

The researcher use the experimental project to solve the English teaching problems.

a. The work subject matter

An investigation for enhancing the spelling errors in English

b. Investigator

A professional English teacher

c. The work background

In the classroom, the English teacher has investigated the spelling errors in the students' assignments.

d. The work goals

This work is carried on in order to accomplish these goals:

1) Making the students more sensitive with their spelling in English
2) Enhancing their English spellings
3) Promoting the English achievement level
4) Understanding needs and importances of correct spellings in English

The work importance for the school

We know that English is the international language. Suppose we go abroad like Japan and we cannot speak Japanese, we can still use English since it is the international language. Thus, it is important for us to study English correctly.

The area of the problem

The error spelling in English

e. Problem specification

The location of the problem is in class IX A, the second period at DAV Inter College Dehradun. There are some kinds of spelling errors that are done by the students.

Analysing Causes of the problem

The researcher should identify the problem causes in order to get the solutions for solving the problems. Look at the following table!

Cause	Proof	Type	Control
Students don't accomplish assignments (written work) correctly and critically.	Observations of the students' assignments (written work)	Fact	Under the teacher's approach
Students are not aware of their spellings.	Administration of the identification types test	Can be fact or assumption	Under the teacher's approach
The teacher does not tell the studets how important the spelling is.	Examining the students' assignments (written work)	Can be fact or assumption	Under the teacher's approach
The lack of the students' grammatical knowledge	Asking oral test on English grammar	Fact	Can be or cannot be under the

			teacher's approach

The cause analysis presesnts the base for the applied hypothesis formulation.

Formulation of the applied hypothesis

These applied hypotheses have been established by reflecting the causes that are under the English teacher's approach:

First applied hypothesis: The students can adjust and develop their English spellings by appropriate correction on their assignments. The first step of the first applied hypothesis is indicating the objective and the next step is taking an action to accomplish the objectives.

Second applied hypothesis: The teaching should focus on the spellings so that it can improve the students' spellings. The first step of the second applied hypothesis is taking the action and the next step is indicating the objectives

Model for examining applied hypotheses

The first applied hypothesis is examined by using the following project model.

If the evidences signify the specific development of spellings in English, the data are gathered during the research. The second hypotesis does not need to be examined.

Evaluation

The evaluation is done by accepting or rejecting the hypotheses. The bar diagrams are prepared for the spelling errors. The error percentages are calculated to investigate the

English spelling improvement. To test the specific development of English spelling, several spelling examinations can be regulated.

The conclusions are drawn in the form of remedial measures for the problem.

Activity introductions	Method	Source	Time
The teacher makes various assignments (written work)	The teacher discusses the topic with other teachers	Text books and syllabus	Two days
The teacher makes the backround of his assignments (written work) of the whole semester	Analyzing the English papers that have been given to him	Programs of the session and time table	Three days
The teacher gives assignments (written work) once a week of various types	The students' work charge can be considered in giving the assignments	Consulting the teacher of the other courses about homework.	Four weeks
The teacher checks the assignments (written work) correctly and gives scores	The teacher checks the assignments (written work) before the students or in their absence	He is able to take help of good English students	Four weeks

Investigator's comments

After the teachers examine the hypotheses, they can enhance the teaching methods and teaching process. They can minimize the students' spelling errors in English. Also. They can advance the achievement level in English.

10. Suggestions for applied research projects

In conducting an applied research project the researcher should remember these suggestions:

a. The nature of the project should be decided whether it is developmental project or experimental one.
b. The investigator must be directly associated with the problem to be studied.
c. The form of problem should be real.
d. The project should be so planned that it should not intervene the functioning of other school working.
e. The project should be concerned directly with
f. qualitative improvement and level of performance of the students.
g. The project should be evaluated objectively by employing reliable and valid tools.
h. The applied hypothesis should be formulated by considering the causes of the problem which are under the approach of the investigator.
i. The design of the applied research project should be economical from money and energy of view.
j. The problem should be selected objectively and studied scientifically.
k. The causes of the problem should be isolated objectively on the basis of some evidences.

11. Dissimilarities between applied and basic researches

The research has two main functions:

a. To contribute new knowledge in Social Studies (basic research' function).
b. To improve the Social Studiesal practices (applied research's function).

Here are some differences of applied and basic research:

	Applied research	**Basic research**
Goal	To improve the classroom teaching	To contribute new knowledge (new theories, facts, and truth)
Researcher	Teachers, principal inspectors, and administrators The researcher must be directly associated with the problems. No academic competence required.	Researchers must have postgraduate degree in the study and skill in the area. They can or cannot be related with the problems.
Problem	The problems are narrow. They are local problems. The researcher chooses the problems himself. No requirement of external approval is needed.	The problems are broad and are related to the broad area of Social Study. The researchers choose the problems, but it is approved by the external expert.
Hypothesis	Based on the problem causes. It requires a research	Based on several retional. Every hypothesis is examined

	model. It is examined beforehand.	by one research model. The hypothesis is important in every kind of research.
Model	It is flexible. It can be changed based on the researcher accessibility. It involves particular process and measuring tools.	It is rigid (cannot be changed). Theoritical and practical understanding is essential for researchers. It includes technique, model, and methods of the research.
Sampling	There is no sampling problem, the research uses accidental and incidental samples. The sample is the student. Non-probabilty techniques is used.	The research basis and sampling are the main problems. The sampling method understanding is important. Generally probability sampling method is used. The true representative sample is seected by using a proper sampling method from the popularity.
Data collection	Observation and tests are used for collecting the data. The standardized tool may be employed if it is available.	Standardized tests are employed for collecting the data. The researchers should prepare the tools and the tools' constancy and legality are examined.
Data analysis	The statistical method is used for analyzing the data so that the research can draw several findings. Simple statistic: precentages mean	The parametric statistical methods are used for nalyzing the data. The understanding and knowledge are important. The decisions are made

	mode, S.D. and graphical representation are used. The decisions are made about problem solution.	about the hypothesis or the evidence.
Conclusion	Several conclusions are drawn about the solution of the problem. Conclusions are in the form of remedial measures for developing the current practices. It doesn't contribute to the fund of knowledge.	The conclusions are in the form of generalization. The generalization can be new theories or facts. Therefore, the conclusions can be new knowledge.
Evaluation	It is evaluated by the researcher himself and no external evaluation is needed. Its findings are in the form of the development in the current practice.	A committee of testers is assigned for testing the basic research report. The degree of Ph.D., D.Sc. or D.Phil. is rewarded for the value contributions in the area that is studied.
Finances	The finances are met out by the school or the researcher. The extension depth of NCERT finances those projects as well.	The U.G.C. is rewarding junior and seniror research felloeships for the basic research in every subject. The NCERT finances the project. U.G.C. finances it as well. The researcher also endures the cost.
Training	The teacher is drilled in B.E.D. and L.T. programmers for the	There is a required paper of research techniques and degrees of M.Ed., M.B.A. and

	understanding of applied research idea. The extension departments are arranging the seminars for the applied research project for in-service teachers.	M.Phil. levels for understanding of the research methodology. The students should submit a dissertation for the practical knowledge of conducting research work.
Scope	It is narrow. It manages the classroom teaching problems. The area is local.	It is broad. It manages the basic problems of Social Study and teaching learning situations.
Example	The problem of assignment, spellings, pronunciation and poor attendance. The school enrolment is reducing quickly are the main prblems of applied research in the area of Social Study.	Teaching abilities for various course teachers. Behavior patterns or effective teachers and creative ones. Dissimilarity between competent and incompetent teachers performances.
Importance	The major importance for solving the local problems of school and classroom teaching.	The main importance is answering the fundamental problems and contributing new knowledge.

12. Classroom Action Research (CAR)

The study is conducted in the classroom because there are practical problems happen in the classroom, but it is real problem.

Analyzing problem:

a. Observing

b. Interview
c. Distributing questions
d. Administer test
e. Analysis document

Practical problem:

a. Unmotivated
b. Lazy
c. Not focus
d. Not comparative
e. The score is low

Step of CAR

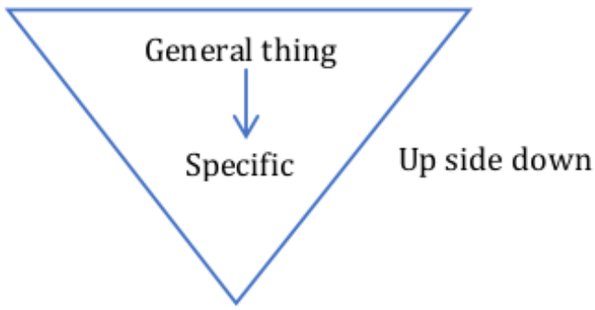
a. Planning

Designing (lesson plan):

1) Preparing instrument
2) Determining criteria of success
3) Looking practical problem:
   (a) Suited with
   (b) Congruent with
   (c) Match
4) Socializing program or time table
5) Training the teacher

After lesson plan then decide the criteria.

Backround of the study.

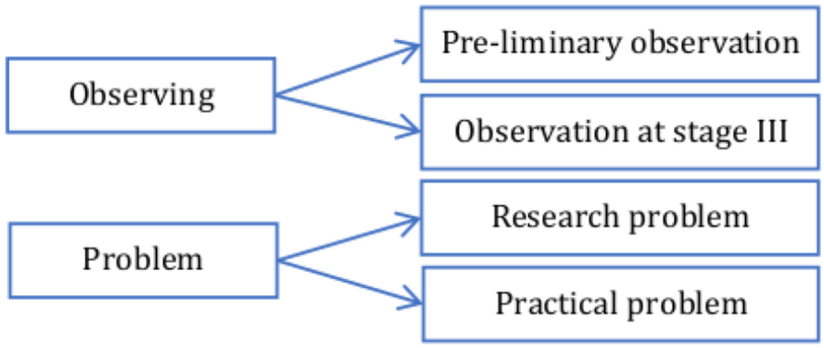


(a) Implementing
Who is doing the research?
(b) Observing
The effect of the implementation

(c) Reflecting
Process of analyzing data

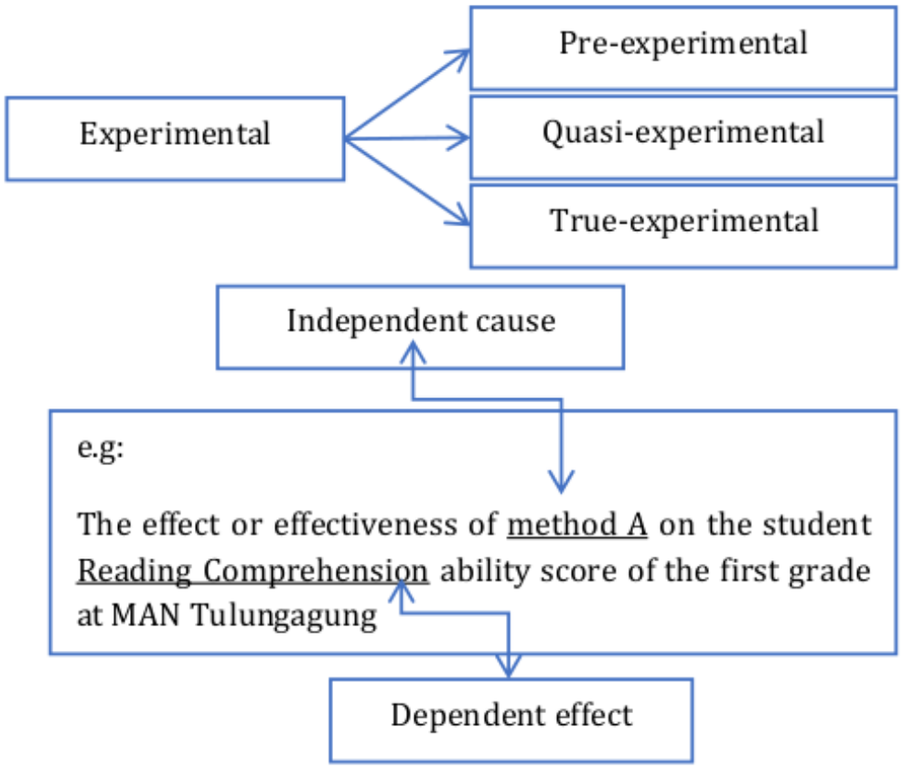
In the background of CAR must be consisted of:

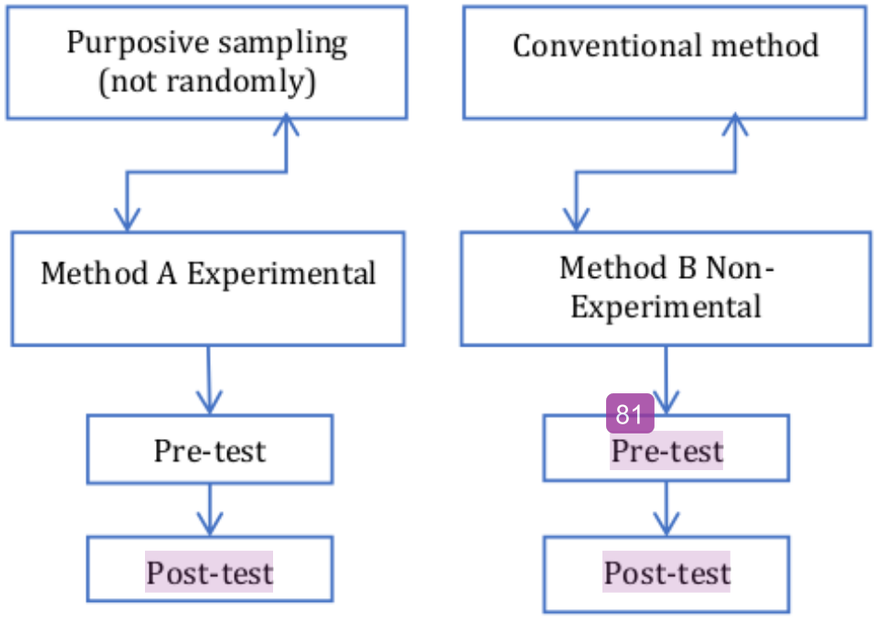
(a) Pre-liminary observation
(b) Practical problem
(c) Offering the strategy
(d) Describe what the method is
(e) The goodness or contribution of the method
(f) The conclusion



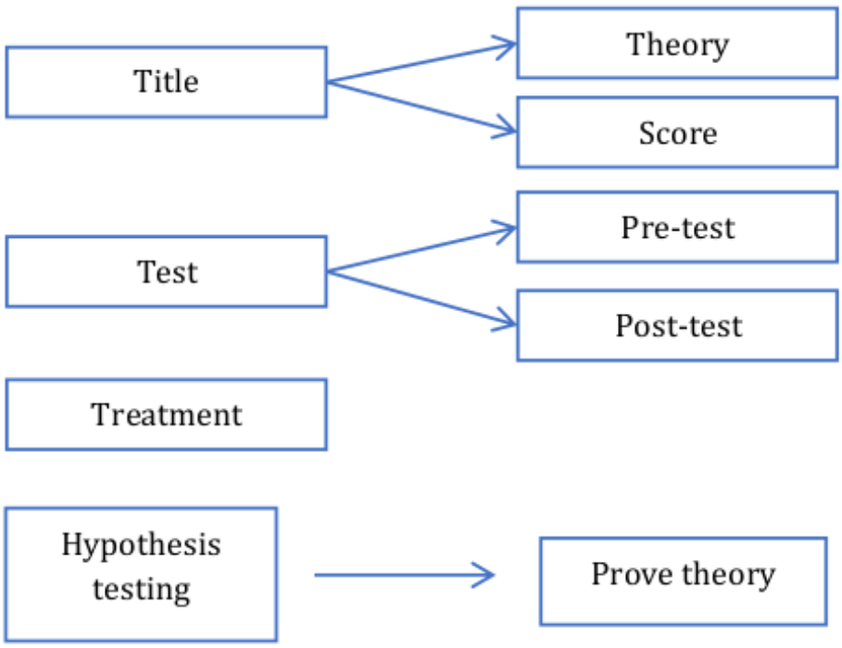
13. Experimental

In experimental research the researcher wants to find significant different score and in experimental research is cause-effect relationship.





Experimental research may be viewed from:

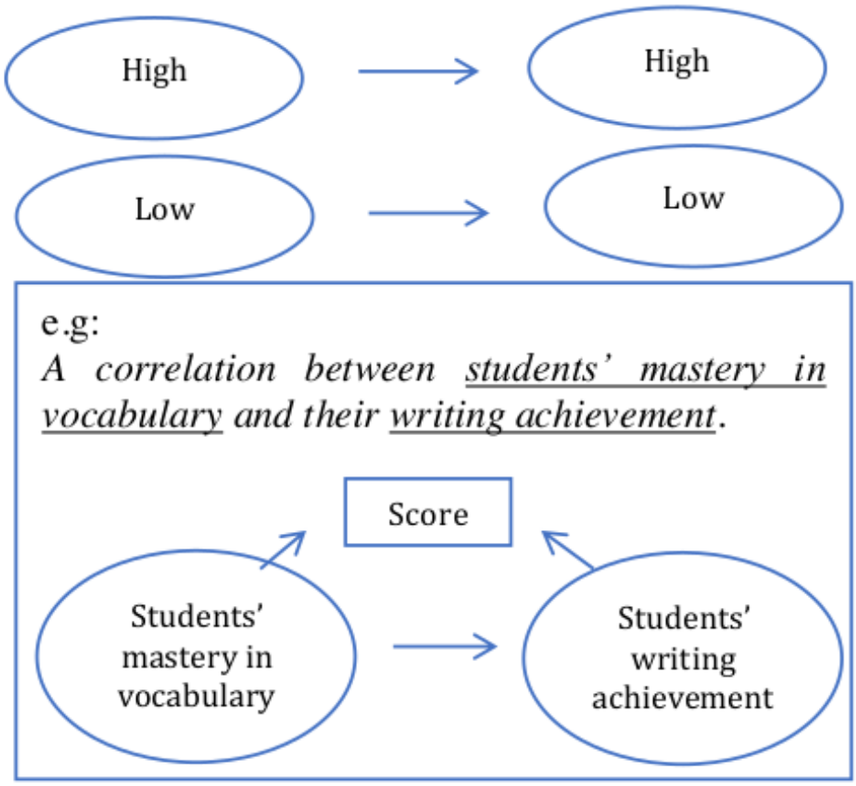


14. Correlational study

Correlation research is one of the descriptive research designs used to measure the relationship

between two or more continuous variables, like students' IQ scores and their academic achevement, students' reading skills and their writing skills. The correlational study using correlation statistics to invesigate the precise degree of their relationship. These variables already occur in the group or population, are not controlled by the experimenter or are already present together. In correlation research, the X-variable is not called independent variable, but predictor or explanatory variable, while the Y-variable is called outcome or criterion variable (Latief, 2012, p. 113).

Philosophically is association not cause-effect. There is no treatment. There is negative correlation or positive one. The correct hypothesis is, "There is negative correlation between ... and ..." or "There is positive correlation between ... and ...".



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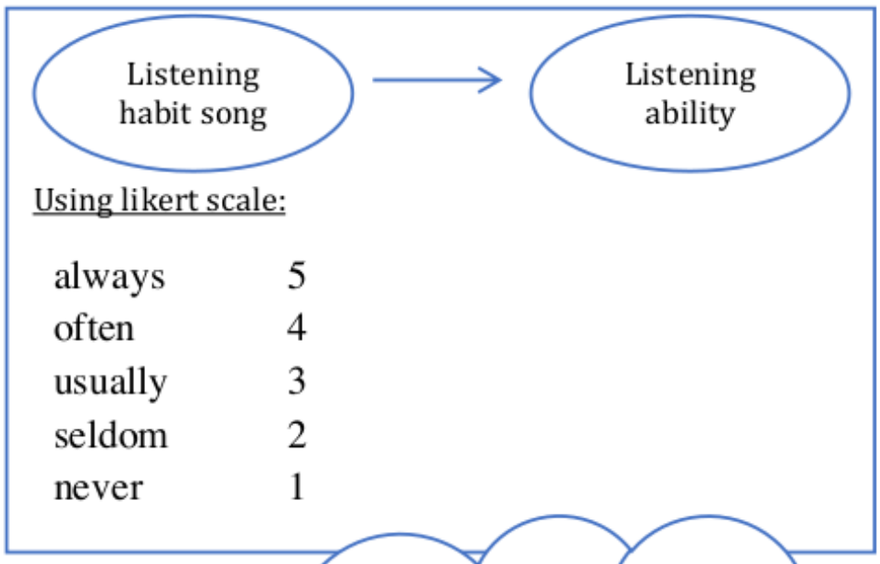
0.10 low	0.60 middle
0.20 low	0.70 middle
0.30 low	0.80 high
0.40 low	0.90 high
0.50 low	

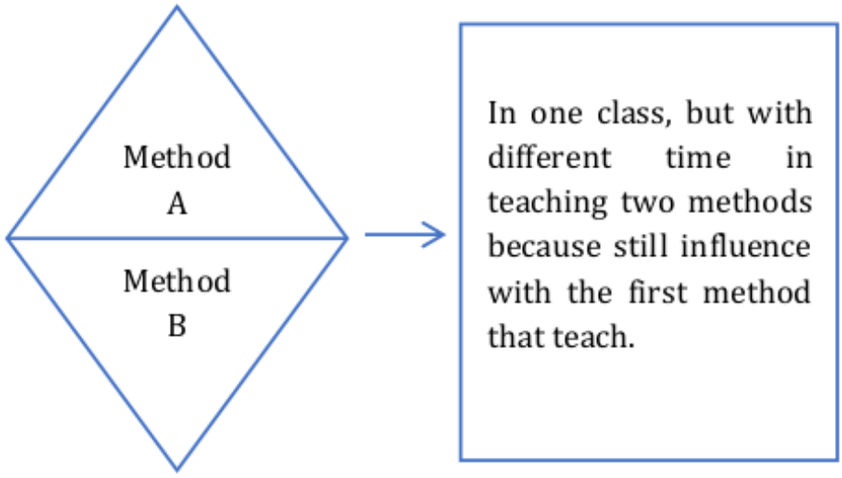


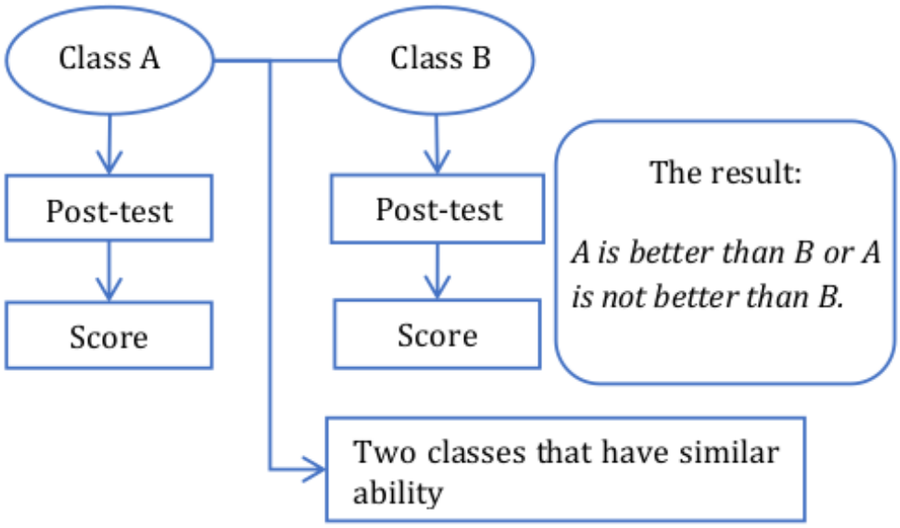
Example research question in correlation study:

1. Is there any correlation between ... and ...?
2. Do the students whose vocabulary mastery good or right, they also get good or right score in reading?

15. Comparative study

This study is different from experimental study. In experimental study take one theory to prove, but in comparative study take two theories to prove which one do prefer.





P. Questions

1. Explain what research is. Mention the research characteristics. Give research definition based on your understanding!
2. What are the dissimilarities between quantitative researches and qualitative ones?
3. Mention the particular features of research!
4. Describe and explain the principal goals of the study!
5. Explain different classification of research. Mention the differences between basic and applied research, don't forget to give the examples of your answer!
6. Explain the steps of research and the objectives of action research!
7. Project an applied research and explain the steps that must be done in conducting it!
8. Why do qualitative researchers collect data from natural setting?
9. What is the difference between focusing on the process and focusing on the product?
10. Give an example an outline of Classroom Action Research!

CHAPTER 2
RESEARCH PROBLEM

A. DEFINITION OF RESEARCH PROBLEM

Research problem can be defined as the difficulty that the researchers face and it should be solved by them when they conduct the research. It can also be defined as the topic the researcher provides in the research project. As you have read before, the formulation of the research problem is the first step of conducting the research. Also, it is not as easy as it looks since it is the most difficult step of conducting the research. Usually the research should choose a broad field first, and then he will delimit it into the particular one.

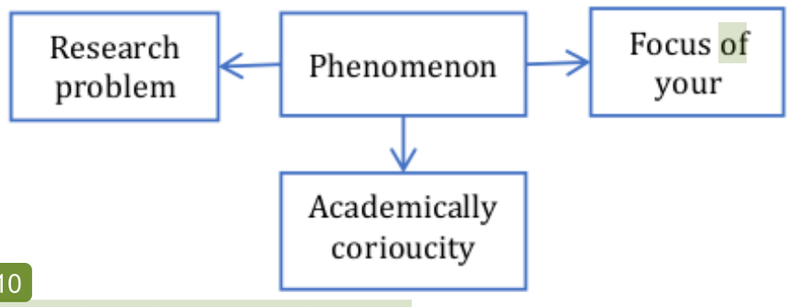
There are several elements of research problem. They are:

1. The research purpose
2. The research title
3. Operational definitions of the variables
4. The research objectives
5. The research restriction
6. Field and the limitations of the research

There are some general research problem sources. They are:

1. Individual experience
2. Practical experience
3. Previous research
4. Existing theories

5. Social topics
6. Perception
7. Brainstorming
8. Tradition
9. Consultation with professionals
10. Exposure to field situation



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B. SELECTING THE PROBLEM

Selecting the problem is not an easy job. The researchers should select the problem thoughtfully and it should come from the researcher's thought. Here are some aspects in selecting the research problem:

1. The researcher should not select the overdone subject.
2. Common researchers should not make a controversial subject as a choice.
3. The researchers should avoid too narrow and too ambiguous problems.
4. The selected subject should be common and possible so that it will be easy for the researcher to gather the data for the research project. Like when the problem is common, the researcher can ask the experts who have already conducted the similar research. Also, the researcher may read some existing literature. By doing those, the

researcher can be easily find the solutions to solve such problem.

5. Criteria that should be considered in selecting problem. They are the subject value, the accomplishments and the researcher training, expenses, and time. Before the last problem selection is done, here are some questions that the researcher should ask himself:

   a. Is he ready to conduct the research?
   b. Can he provide the budget of conducting the research?
   c. Can important cooperation of the people who become the subjects of the research be got?

6. There should be the previous study for the selected research.

C. CRITERIA IN SELECTING THE RESEARCH PROBLEM

In selecting the research problem, there are some criteria that should be remembered since those help the researcher arrange the study. They are:

1. Interests

   It is very important to choose the research topic that you have interest in so that selecting the research problem and conducting the research will be easy for you since you enjoy it.

2. Significance

   The important thing that you should remember is that in conducting the research, you have to have sufficient knowledge about what you are studying. The problem should be narrowed into something that is controllable, clear, and specific. Selecting the

problem that you can control or manage is important. Although the researcher commits a descriptive study, he should consider its significance thoughtfully.

3. The concept measurement

In case that you use an idea in your study, ensure that you understand its measurements. As an illustration, in case that you are going to measure the health advertisement program efficiency, you should understand what determined the efficiency and how to measure it. You have to remember to not using ideas that you do not know how to measure.

4. The expertise level

The researcher should ensure that he has an adequate expertise level for the task that he proposes. The researcher may get help from the other researchers, but he should do most of the study himself.

5. Relevance

The thing that you should also remember is choosing a relevant topic for your study.

6. The data availability

In case that the topic requires a group of information from the secondary sources like census, client records, office records, etc. the researcher has to ensure that the data are available before he finalizes the topic.

7. Ethical issues

In conducting the research, the study population can be negatively impacted by several questions;

deprived of interference; expected to share sensitive information. How ethical issues can impact the study population and the ethical issues can be overcome must be thoroughly tested at the step of problem formulation.

D. THE IMPORTANCES OF THE RESEARCH PROBLEM FORMULATION

Here are several importance of the research problem formulation:

1. Formulating the research problem is the first step in conducting research.
2. The research problem formulation is like the identification of a destination before someone undertakes a trip.
3. Formulating the research problem is important since it is the fundamental part of the research. It is like the building foundation. The better foundation is built, the stronger building it will become.

E. RESEARCH PROBLEM FORMULATION STEPS

There are several steps in the formulation of a research problem. They are:

1. Identify a broad subject

The first thing that you have to do is identifying a broad subject. It will be easy if you choose a topic that you are interested in. For example, if you are a medical student, maybe you will be interested in choosing a topic about some diseases like cancer. You have to remember that it is important to identify the topic that you are interested the most.

2. Discussing sub-field of the subject

After choosing the topic that you are interested the most, you have to dissect that topic into sub fields since it is still abroad. Let us take bullying as the example.

Subject	Sub-field
Bullying	Types of bullying
	Causes of bullying
	Impacts of bullying on children
	Impacts of bullying on the family

3. Choosing the most interesting field of the study

Choose the sub-field that you are interested the most. You can choose it by doing elimination until you find the one that are controllable for you. After you are really sure about what you have chosen, then go to the next step.

4. Research problem development

After you have chosen the sub-field that you are interested the most, you have to make a list of questions related to that sub-field. Here, you can do elimination as well.

5. Formulate the objectives

In this step, you have to formulate the main objectives and the sub-objectives. Such objectives are got from the research questions. The difference between them is in the way they are written. The objectives change research questions into behavioral goal by employing action oriented words like “to determine”, “to find out”, “to examine”, etc.

6. Test the objectives

Examine the objectives to make sure the practicability of accomplishing them through your research endeavor. Think over them in the light of resources, time, and scientific knowledge at your disposal.

7. Double-check

Make sure that you are interested in the study and that you have enough resources to engage in.

We have centered on the base of the study which is the research problem. Nevertheless, all studies in social science have a second element that is the study population, from whom the information needed to answer the research questions is got. When you narrow the research problem, you should determine very accurately who constitutes the study population to choose the proper respondents.

F. NECESSITY OF DEFINING THE PROBLEM

You have to remember that it is very important for you to define your research problems in conducting research since it can help you to get the relevant data. Also, an appropriate research problem definition will allow you to be on the tract, while an ill one will bring difficulties. Moreover, it is important for every researcher to define the research problem properly since it is one of the most important tests in conducting the research.

G. METHOD INCLUDED IN DEFINING A PROBLEM

As you have read before, defining the research problem is important in research work. Thus, you have to do it. The method of defining the research problem includes following these steps:

1. Statement of the problem in a common way.

Firstly the research problems must be presented in a common or a broad way. It may include several ambiguities that should be solved by reconsidering the problems. Concurrently, the practicability of a certain solution should be considered and the same must be analyzed when presenting the research problems.

2. Understanding the characteristic of the problem.

After the researchers have stated the problem in a common way, they should understand the characteristic of the research problem and its origin clearly. The best way in understanding the characteristic of the research problem is through discussion with the people who have conducted the research that has the same problem before. Also, the researchers can discuss it with people who have an adequate knowledge about such research problem.

3. Examining the accessible literature.

All accessible literature related to the research problem should be analyzed and examined before the research problem definition is given. It means that researchers should be experienced with appropriate theories in the area, reports and records and other appropriate literature as well. "Knowing what data are available often serves to narrow the problem itself as well as the technique that might be used." It will help the researchers to know if there are particular gaps in the theories.

4. Developing the concepts through discussion.

Discussion is essential since it can present very useful information. Therefore, the researcher should discuss the research problem with experienced

researchers or people who have a sufficient knowledge related to the problem research.

5. Paraphrasing the research problem into an effective proposition.

Finally, the researchers should paraphrase the research problem into an effective proposition. When the characteristic of the research problem has been understood clearly, the environment has been defined, the discussion of the problem has taken place, and the accessible literature has been analyzed and surveyed, paraphrasing the research problem into an effective proposition is not a difficult work. These are several aspects that should be investigated when defining the research problem:

a. The researchers must clearly define scientific words and phrases.
b. The researchers must clearly present the basic assumptions.
c. The researchers must present an honest statement of the investigation value.
d. The researcher should consider the propriety of the time period and the accessible data sources.
e. The researchers must present the limits of the investigation clearly.

H. RESEARCH PROBLEM SOURCES

The study aspect	About	Study	
The population of study	People	Individual, organization, group, society	They provided the researchers with the information

			that is needed from them.
Subject area	People	Topic, situation, association, needs population composition, profit	The information required that you have to gather to solve the research questions.
	Program	Content, structure, result, attribute, achievement, consumer, service provider	
	Phenomenon	The relationships of cause and effect, the study of the phenomenon itself	

I. AN EXAMPLE

Let us illustrate the problem defining method to make you more understand.

Suppose the problem of research is in a broad way like:

"Why is productivity in Japan so much higher than in India?"

That problem has several ambiguities like: What kind of productivity is that? When is the productivity being talked about? Such questions are too common or general that make it difficult to analyze. Thus, the researchers can narrow down the question by thinking twice and discussion to:

"What factors were responsible for the higher labor productivity of Japan's manufacturing industries during the decade 1971 to 1980 relative to India's manufacturing industries?"

That problem is the development of the previous problem and such ambiguities have been removed as well. Further reconsidering and paraphrasing will make a better practicable basis like:

"To what extent did labor productivity in 1971 to 1980 in Japan exceed that of India in respect of 15 selected manufacturing industries? What factors were responsible for the productivity differentials between the two countries by industries?"

Such formulation involves several terms like 'labor productivity', 'productivity differential' and so on, should be clearly explained. Also, the researchers should notice that the data required are accessible. If the data are not accessible for the concerning time period, then the said industries should be exchanged by other industries. The time period propriety should be analyzed as well. Therefore, the researchers should consider every relevant factor before they define the research problem.

J. MORE EXAMPLE OF RESEARCH PROBLEMS

Based on Latief's Book (2012, p. 29-36) from many sources, there are some examples of research problems start from research problem in English instruction,

literature, linguistics, classroom action research, research-development, experimental, correlation, descriptive research, and some examples that only need factual information.

1. Some examples of research problems in English instruction
   a. What are the teachers' opinions about communicative approach?
   b. How do the teachers implement the communicative approach in the classroom?
   c. What do the teachers do to solve the problems?
2. Some example of research problems in linguistics
   a. How do children of multilingual society use declarative sentences of their Indonesian?
   b. What are Indonesian declarative sentence forms produced by children of multilingual society in terms of the number of the sentences clauses?
   c. What are the form variants of their Indonesian declarative sentences based on the kinds of a sentence predicate and sentence clause relationships?
   d. What sentence elements of their Indonesian declarative sentences are changed by native codes and structures?
3. Some examples of research problems in literature
   a. What are the metaphorical symbols used in Robert Frost's poem?
   d. How does the poem convey its message?
4. Example of research problems in research-development

How can an appropriate model of ESP reading materials for the students of the extension program of the Faculty Agriculture, Brawijaya University be developed?

5. Some examples of research problems in the classroom applied research
   a. How is the efficient direct instruction model to improve the students' content-area reading skills?
   b. How is he efficient model of guided practices in summary writing to improve the students' content-area reading skills?
   c. How is the efficient model of independent application of summary writing to improve the students' content-area reading skills?
6. Some examples of research problems in descriptive research
   a. How is students' vocabulary produced in their composition?
   b. What is the students' vocabulary size?
   c. What vocabulary errors are found in students' composition?
7. Some examples of research problems in evaluative designs
   a. What does the reading test actually test?
   b. What reading sub skills are examined in the preparation books of International Standardized English language tests?
   c. To what area does this reading test measure the cognitive dimension based on the Barret Taxonomy?

8. Example of research problems in experimental research

Does the group taught vocabulary using individualized vocabulary instruction get better score than the group under teacher centered vocabulary instruction?

9. Some examples of research problems in correlation research
   a. How is the relation between strategy inventory for language learning and learners' vocabulary achievement?
   b. How is the correlation between learners' learning model and their vocabulary achievement?
10. Some examples of research problems requiring answer of factual information
    a. How do teachers teach English in *Lembaga Bimbingan Belajar* (LBB) Malang?
    b. What is the requirement of the English teachers at LBB Malang?
    c. What sort of teaching preparation is made by the English teacher in LBB Malang?
    d. What sort of material is used by the English teachers in LBB Malang?
    e. What sort of teaching and learning activities are conducted by the English teachers in LBB Malang?
    f. What sort of evaluation is conducted by the English teachers in LBB Malang?

g. What sort of facility is used to support the teaching and learning activities in LBB Malang?

K. CONCLUSION

From the materials that we have discussed, we can conclude that we have to follow several steps in defining the research problems: stating the research problem in general, removing the ambiguities from the research problem, considering and reconsidering process results in a more particular formulation of the research problem so that it will be a sensible one in terms of the accessible data and resources and is also analytically meaningful. All results in a well-defined research problem which is not only meaningful from a functional viewpoint, but is equally capable of paving the method for the improvement of practical hypotheses and for solving the problem itself.

L. QUESTION

1. Describe the methods of defining the research problems?
2. What is research problem? Define the major topics that should get the researcher's attention in formulating the research problems. Please give appropriate examples to illustrate your points!
3. How do you define research problems? Give three examples to elucidate your answer!
4. Explain the necessity of defining the research problems!
5. Write brief notes on:
   a. Experience survey
   b. Pilot survey
   c. Research problem components

d. Paraphrasing the research problem

6. "The task of defining the research problem often follows sequential patterns. Explain!
7. "Knowing what data are available often serves to narrow down the problem itself as well as the technique that might be used." Explain the fundamental idea in this statement in the context of defining a research problem.
8. Write a comprehensive note on the, "Task of defining a research problem".
9. What are the characteristics of good research problems?
10. When can we get idea for research problem?

CHAPTER 3
RESEARCH DESIGN

A. DEFINITION OF RESEARCH DESIGN

Research design can be defined as the framework of research methods that is selected by the researchers. It lets the researchers adjust on the research methods which are appropriate for the topic and arrange their study to be successful. There are three main kinds of research design. They are data collection, measurement, and analysis.

An effective research design generally makes a minimum bias in data and develops the accuracy of the data so that it is expected that the research design will bring desired results. There are several important aspects of the research design. They are:

1. Precise statement of the objectives
2. Methods in gathering and examining the research
3. Methods in examining the collected facts
4. Research methodology types
5. Possible criticisms for research
6. The research study settings
7. Timeline
8. The analysis measurement

An appropriate research design will lead your study to be successful. Favorable research studies present perceptions which are precise and unprejudiced. The researchers should create an analysis which meets all

major characteristics of the research design as the following:

1. Neutrality

   It is very important to make sure that your research design is neutral.

2. Reliability

   The research design has to signify how to formulate research questions to make sure the requirement of results. If the research design is reliable, the expected results will be got.

3. Validity

   There are several measuring devices accessible, but the right measuring devices are those that help the researcher in ascertaining results based on the research objectives. Then the research questions built from the design will be valid.

4. Generalization

   The result of the design should apply to not just a limited sample, but to a population. A generalized design indicates that your analysis can be done on any part of population with similar certainty.

Those aspects influence how the respondents answer the research questions. Also, those characteristics have to be balanced in a great design.

Understanding the different kinds of research design clearly is very important for every researcher to choose which model to apply for the research study. The research design can be categorized broadly into two kinds. They are

1. Qualitative research design

It determines the relationship between gathered data and investigations based on mathematical calculations. The theories that are related to the current phenomena can be proved or disproved using statistical methods. The researcher depends on the qualitative research design which concludes "why" a certain theory is extant along with "what" respondents should say about it.

2. Quantitative research design

Numbers present a better view in making critical business decisions. The quantitative research design is very important for the development of any organization. Perceptions drawn from difficult numerical data and analysis prove to be very efficient when making decisions that are related to the business future.

The research design can be further classified into five kinds. They are:

1. Descriptive research design

In this kind of research design, the researchers are only interested in explaining the topic under the research project. It is a design that is based on the theory created by collecting, examining, and presenting the collected data. It helps other people understand the importance of the research. You can do explanatory research if the problem statement is not clear.

2. Experimental research design

It builds cause and effect relationships of a situation. This is a new design where one examines

the effect caused by the independent variable on the dependent one. This kind of research design frequently applied in social science to investigate human behavior by analyzing two groups. The researcher can have participants change their actions and study how the people around them respond to get better understanding of social psychology.

3. Correlation research

It is a non-experimental research design which helps the researcher builds the relationships between two approximately related variables. This kind of research designs needs two different groups. There are no premises when evaluating the relationships between two different variables and statistical analysis method calculate the relationships between them.

4. Diagnostic research design

In this kind of research design, the researchers evaluate the fundamental cause of a particular subject matter. This kind of research design helps one learn more about the causes of difficult situation. Also, it has three parts of the research: the topic inception, the topic diagnosis, the topic solution.

5. Explanatory research design

This kind of research design uses the researchers' ideas on the topic too further investigate their theories. It describes uninvestigated aspects of the topic and features about what, how, and why.

B. NEED FOR RESEARCH DESIGN

Research design is needed since it can use to facilitate the different research work. Thus, it is very important for you to make research as effective as possible producing maximum information with minimum effort, time, and money. The research design should be prepared carefully since any mistake will ruin the whole work. In fact, research design has a great bearing on the reliability of the results arrived at and as such forms the substantial foundation of the whole structure of the research study.

The research design helps the researchers arrange their thoughts in a structure how it can be workable for them to find imperfections and weaknesses.

C. CHARACTERISTICS OF A GOOD DESIGN

There are several characteristics of good research design such as flexible, effective, proper, etc. The other consideration of good research design is the design that minimizes bias and maximizes the data reliability. Also, the research design that brings the smallest error is also considered a good research design. Furthermore, research designs that yield maximum information and presents a chance for considering several different aspects of a problem is supposed to be the most effective and appropriate research design relating to several problems of research. Hence, the question of good design is related to the goals or the objectives of the research problem. A research design can be pretty appropriate in one situation, but can be found wanting in the context of more research problems. A single research design is not able to provide the goals of all research problem kinds. A design that is

suitable for a certain research problem generally includes the deliberation of these factors:

1. The means of getting information
2. The chance and abilities the researchers
3. The problem objectives to be studied
4. The characteristics of the problem to be studied
5. Time and money

D. ESSENTIAL CONCEPTS RELATING TO RESEARCH DESIGN

To make you more understand about kinds of research design, it is important for you to define the essential concepts of the research design as the following:

1. Dependent and independent variable

An idea which can accept various quantitative values like height, weight, and income is known as variable. A dependent variable is the variable that depends on or is the result of the other variable, while an independent one is the variable which roles as the antecedent to the dependent one. For example, if height depends on age, then height is a dependent variable, whereas age is an independent one.

2. Extraneous variable

Even though an independent variable is not related to the objectives of the study, but it can influence the dependent one and it is called as extraneous variable. For example, when researchers investigate the hypothesis of the relationships between the children's acquisitions in moral study attainment and their self-rating indicates an independent variable, while the moral study

acquisition indicates a dependent one. Nevertheless, agility can influence the moral study acquisition, but since it is not related to the objectives of the study, it is known as an extraneous variable.

3. Control

Control is used when the researcher designs the research, by minimizing the influences of the extraneous variable.

4. Confounded relationship

If the dependent variable is restricted by the effect of extraneous variable so the relationships the dependent variable and the independent one known to be confused by extraneous variable.

5. Research hypothesis

Research hypothesis is the prediction relationship which has to be examined by scientific methods. In addition, it is a predictive statement that relates an independent variable to a dependent one. Also, a research hypothesis should include, at least, one independent variable and one dependent one.

6. Experimental and non-experimental hypothesis-testing research

When researchers intend to investigate the research hypothesis, it is called as the hypothesis-testing research. Nevertheless, it can be of the experimental design or the non-experimental one. Furthermore, a research in which the independent variable is not used called as the non-experimental hypothesis testing.

7. Experimental and control groups

When some groups are revealed to the common circumstances of an experimental hypothesis-testing research, it is called as control group, while an experimental group is revealed to some different particular circumstances.

8. Treatments

Treatments can be defined as the various kinds of circumstances under which the experimental and control groups are placed in consideration of determining the comparative effects of three varieties of fertilizers on a crop yield, the three different varieties of fertilizers will be valued as three various treatments.

9. Experiment

Experiment is the process of testing the fact of a statistical hypothesis, relating to several research problems. For example, an experiment is done to discover a new improved medicine. In addition, there are two types of experiment, absolute experiment and comparative one.

10. Experimental units

Experimental units act as the predetermined blocks where various kinds of treatments are applied.

E. DIFFERENT RESEARCH DESIGN

Different research designs can be classified as the following:

1. Research design in case of exploratory research work

The principal goal of exploratory research is to formulate a problem for more accurate study. It highlights the finding of ideas. The research design for this kind of study should be flexible to give chance in thinking over various aspects of the research problems.

2. Research design in case of descriptive and diagnostic research work

Descriptive research work is the study that is related to describing the personalities of a certain person, or a group, while diagnostic one finds out the constancy with which something happens or its affiliation with something else. Both descriptive and diagnostic research work, researchers should clearly define what they want to measure and they have to get sufficient techniques for measuring it in addition to an explicit definition of population they want to investigate. The research design in those research works should be not flexible and should center on:

a. Formulating the study objectives
b. Designing the data collection methods
c. Choosing the sample
d. Gathering the data
e. Processing and examining the data
f. Reporting the results

Here are some differences of research design in exploratory and descriptive/diagnostic research work:

Research Design	*Type of study*	
	Exploratory of Formulative	*Descriptive/Diagnostic*
Overall design	Flexible design (design must provide opportunity for considering different aspects of the problem)	Rigid design (design must make enough provision for protection against bias and must maximise reliability)
(i) Sampling design	Non-probability sampling design (purposive or judgement sampling)	Probability sampling design (random sampling)
(ii) Statistical design	No pre-planned design for analysis	Pre-planned design for analysis
(iii) Observational design	Unstructured instruments for collection of data	Structured or well thought out instruments for collection of data
(iv) Operational design	No fixed decisions about the operational procedures	Advanced decisions about operational procedures.

3. Research design in case of hypothesis-testing research work

In this kind of research work, the researchers examine the hypotheses of causal relationship between variables. This research work needs procedures to minimize bias, maximize reliability, and enable concluding about causality.

F. BASIC PRINCIPLES OF EXPERIMENTAL DESIGNS

There are three experimental design principles. They are:

1. Replication

The experiment has to be done more than once or be repeated since it can increase the experiment statistical accuracy.

2. Randomization

This principle gives protection when researchers do experiments, across the extraneous factor impacts. By way of explanation, it signifies that researchers have to design the experiment used a method which the differences caused by extraneous factors are able to be connected under the common label of "opportunity".

3. Local control

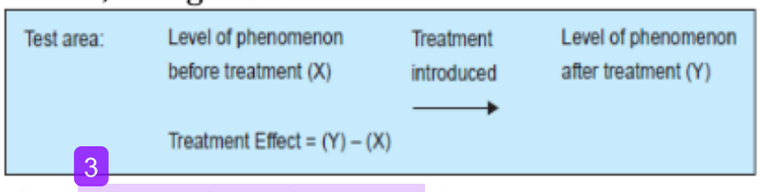
Under the local control, the extraneous factors is made to change intentionally beyond as wide a extent as essential and it has to be done in a method that the variability it brings about can be measured and thus removed from the experimental error.

G. IMPORTANT EXPERIMENTAL DESIGN

Experiment design is the framework of an experiment. It can be divided into two kinds, informal experimental design and formal one. An informal experimental design is a design which commonly uses a less sophisticated mode of analysis based on dissimilarities in magnitudes, while a formal one offers nearly more control and uses an accurate statistical procedure for analysis. Here are several important experimental designs:

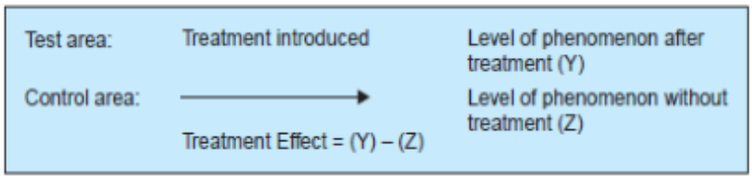
1. Informal experimental design:
   a. Before-and-after without control designs

Here, a single test range is chosen and before the treatment introduction, the dependent variable is measured. Then, the treatment is presented and the dependent variable is measured repeatedly. The treatment impact will be alike to the phenomenon level after the treatment reduces the phenomenon level before the treatment. Hence, it might be exhibited:



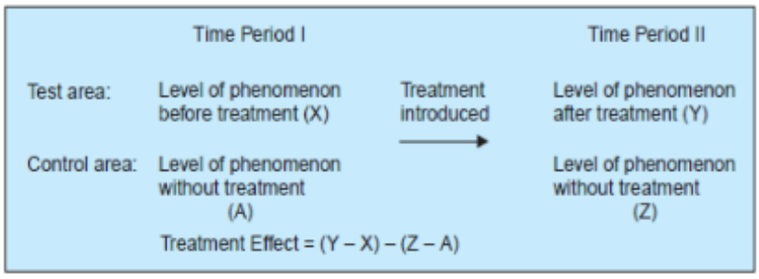
b. After-only with control designs

In such design, two ranges (test range and control range) are chosen and the treatment is only presented into test range. Then, the dependent variable is measured in those two ranges concurrently. The effect of the treatment is evaluated by the dependent variable value in the control range from its value in the test range. The design can be represented:



c. Before-and-after with control designs

Here, two ranges are chosen and the dependent variable is measured in those two ranges at the same time before the treatment. Then, the treatment is only introduced into the test range and after the introduction of the treatment; the dependent variable is measured in those two areas at the same time. The impact of the treatment is concluded by interjecting the change in the dependent variable in the test area. It can be



represented as the following

2. Formal experimental design:

   a. CR design (completely random design)

   It includes two principles, replication and randomization. The important characteristic of it is that the topics are selected randomly to the experimental treatment. Also, this design is commonly applied when experimental ranges come about to be homogenous.

   b. RB design (randomized block design)

   This kind of design is the development of the CR one. Here, the topics are divided into two

division first, called as blocks. The number of the topics in a given block will be alike to the number of treatments and one topic in every block will be selected randomly. The principal characteristic of such design is that every treatment comes to the same number of times in every block.

c. LS design (Latin square design)

In this kind of design, the treatments are assigned among the plots which no treatment happens more than once in any row or column. Also, here the researcher should think that treatments and blocking factors have no interaction. Nevertheless, this kind of design needs so many rows that bring about a limitation for it.

d. Factorial design

It is applied in experiments where the influences of variable more than one cause are to be concluded. This kind of design can be divided into two kinds, simple factorial design and complex one. In simple factorial designs, the researcher considers influences of two cause variables, while the complex one is used when the experiment is conducted with more than two causes. In addition, in this design the researcher can analyze the treatment and level interaction.

H. CONCLUSION

There are some research designs that the researchers should determine in order to be used in the data collection. Also, they should present proper weight to different points like the nature types, the research objectives the desired standard of certainty while they make a decision relating to the research design of their studies.

I. QUESTIONS

1. What is research design? Explain its significance!
2. Give the definition of each term below:
   a) Extraneous variable
   b) Confounded relationship
   c) Research hypothesis
   d) Experimental and control groups
   e) Treatment
3. Explain several important research designs in experimental hypothesis-testing research!
4. "Research design in exploratory studies must be flexible, but in descriptive studies, it must minimize bias and maximize reliability" discuss it!
5. Explain good research designs!
6. Explain and give the example the following research designs:

   a. Two groups of randomized designs
   b. Latin square designs
   c. Random replication designs
   d. Simple factorial designs
   e. Informal experimental designs

7. Write a brief note on "experience survey" explaining completely its use in exploratory research study.
8. Discuss the stratification basis to be used in sampling people opinions about inflation!

CHAPTER 4
HYPOTHESIS

A. DEFINITION OF HYPOTHESIS

Here are some definitions according to some sources:

1. "Hypothesis is conjectural statement of the relationship between two or more variables (Kerlinger, 1956)."
2. According to Webster's New International Dictionary of English Language, "A hypothesis is a proportion, condition, or principle which is assumed, perhaps without belief, in order to draw out its logical consequences and by this method to test its accord with facts which are known or may be determined."
3. Grinner and Slothers state, "A hypothesis is written in such as method that it can be proven or disproven by valid or reliable data, it is in order to gain these data that we present our studies."
4. According to Lundberg, "A hypothesis is a tentative generalization the validity of which remains to be examined (Green and Co, 1929)."

B. THE CHARACTERISTIC OF HYPOTHESIS

Hypothesis has some characteristics. They are:

1. The hypothesis has to be understandable and accurate so that it will be considered reliable.
2. The hypothesis should be specific.

3. The hypothesis must have range for organizing test.
4. The hypothesis must state the relationship between variables if it is a relational hypothesis.
5. The hypothesis should be state briefly and clearly.

C. KINDS OF HYPOTHESIS

There are several kinds of hypothesis as the following:

1. Simple hypothesis

A simple hypothesis represents the relationships between one dependent variable and a single independent one.

2. Complex hypothesis

A complex hypothesis represents the relationships between two or more dependent variables and two or more independent ones.

3. Directional hypothesis

A directional hypothesis represents how researchers are creative and dedicated to a certain result. The variables' relationships are able to predict their characteristics.

4. Non-directional hypothesis

Non-directional hypothesis is applied when there is no theory included. It states that a relationship is extant between two variables without predicting the precise direction of the relationship.

5. Null hypothesis

Null hypothesis gives a statement that is opposite to the hypothesis. There is no relationship between independent variable and dependent one. Its symbol is "HO".

6. Associative and Causal hypothesis

An associative hypothesis happens when there is a change in one variable appearing in a change in the other variable, while a causal one proposes a cause-and-effect interaction between two or more variables.

D. PROCEDURE OF HYPOTHESIS TESTING

Here are several steps in testing hypothesis:

1. Arranging the hypothesis

Arranging a hypothesis is the first step of testing the hypothesis. Usually, the researchers will make more than one hypothesis since if a hypothesis is rejected; they can still use the other hypothesis. The hypothesis should be stated clearly.

2. Choosing statistical method

There are some statistical tests that are applied in examining or testing the hypothesis:

a) Z-Test (used when hypothesis is related to a large sample)
b) T-Test (used when hypothesis is related to a small sample)
c) F-Test
d) X2

It is a must for every researcher to make appropriate test selections.

3. Specifying the significance level

In this step, the researcher has to specify the significance level since hypothesis testing is based on the pre-determined significance level. The hypothesis rejection or retention is based on the significance level as well and the level is in the form of percentage. Here are some factors that can influence the significance level:

a) The magnitude dissimilarity between sample mean
b) The sample size
c) The measurement validity

4. Determining the sampling distribution

Here, the researcher should decide the proper sampling distribution.

5. Selecting sample and value

After determining the sampling distribution, the researcher selects the sample and proper value by using appropriate distributions.

6. The computation of the performance

It involves testing statistics and standard errors. The researcher has to test the hypothesis for the following possibilities:

a. True, but it causes it rejections
b. False, but it causes its acceptances
c. True, but it causes its acceptances
d. False, but it causes rejections

7. Statistical decision

In this step, the researcher draws statistical decision including the rejections or acceptances of the hypothesis.

E. SOURCES OF HYPOTHESIS

Here are some sources of hypothesis:

1. The similarity between the phenomena
2. Investigations from the previous studies
3. Scientific theories
4. Common guides which affect people's thinking process

F. ROLES OF HYPOTHESIS

There are several roles of hypothesis:

1. It enhances the possibility in conducting investigation.
2. It is the starting point of investigations.
3. It helps the researcher to validate the observations.
4. It directs the research questions in the right way.

G. EXAMPLES OF HYPOTHESIS

1. Consuming sugary drinks every day brings about obesity (simple hypothesis).
2. Every rose has the same number of petals (null hypothesis)

H. CONCLUSION

A clear and accurate hypothesis is important to bring the accuracy, relevance, and center on the research study. A hypothesis is a assumed statement which is used to verify the research project. It is very essential to make sure it is not complicated, specific, and understandable.

I. QUESTIONS

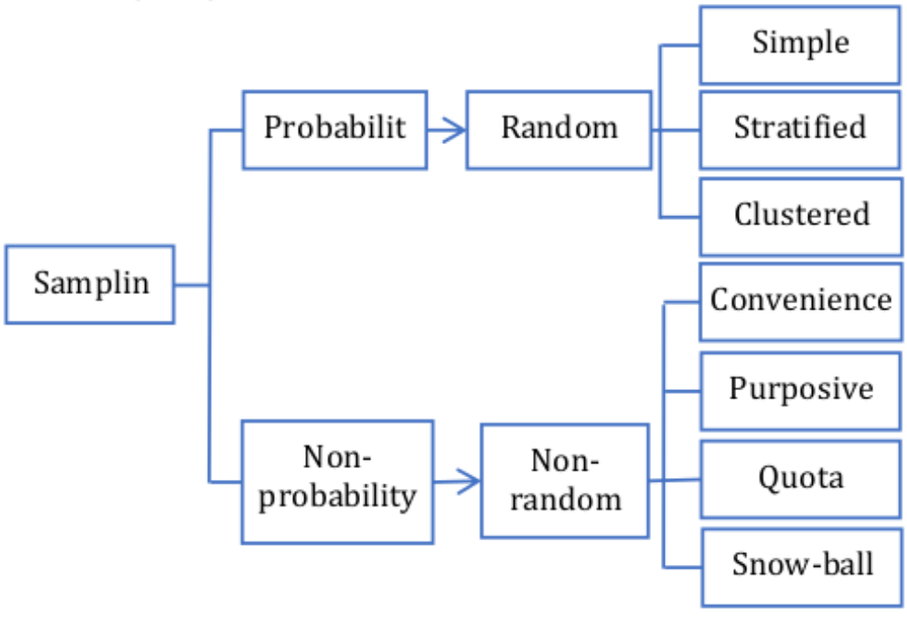
1. What is hypothesis? Explain its characteristics and significance
2. Discuss the kinds of hypothesis!
3. Mention the sources of hypothesis!

4. Mention the characteristics of a good hypothesis!
5. Do researchers always have to make a hypothesis for their research?
6. Draw a hypothesis for a researcher measuring students' skills in reading and in writing!
7. What is the purpose of testing hypothesis?
8. Explain the roles of hypothesis!
9. What are the two possible results of data analysis?
10. Make an example of a good hypothesis!

CHAPTER 5
SAMPLING

A. INTRODUCTION

Sampling can be defined as the selection process of limited number of components from large groups of components or population. Sampling is conducted by selecting a small part of the population. The sample will represent the population. As an illustration, if a drug producer want to investigate the disadvantageous part impacts of a drug on the population of the country, it is nearly impossible to do an investigation which includes all people in the country. Therefore, sampling is important since the researcher to decide sample of people from every demographic, then he can research them. Look at the following diagram!



From the previous diagram we can know that sampling can be broadly divided into two kinds. They are:

1. Probability sampling

This kind of sampling can be defined as a sampling method where researchers set a choice of some criteria, and then they choose the population members randomly. Every member has the same chance to be the sample here. Probability sampling has several applications such as minimizing sample bias and creating a precise sample. Probability sampling is divided into three kinds, simple random sampling, stratified sampling, and clustered sampling.

a. Simple random sampling

Simple random sampling really helps the researchers in saving time and resources. Here, the researcher can get the information by choosing the population randomly. Every person has the same chance of being selected as a sample.

b. Stratified sampling

In this kind of sampling, the researcher will divide the population into the smaller groups which do not lap over, but show the whole population. Then those groups are arranged and the researcher can draw a sample from every group separately.

c. Clustered sampling

In this technique, the researcher divides the whole population into clusters which represent a population. Clusters will be labeled and involved in a sample based on demographic parameters (age, location, sex, etc.)

2. Non-probability sampling

Here, the researchers select members for research randomly. This technique is not a fixed selection process. Thus, every person does not have the same opportunity to be selected as a sample. Non-probability sampling has some applications such as creating a hypothesis and constraining budget and time. There are four types of non-probability sampling. They are:

a. Convenience sampling

In this technique, the researcher almost has no control to choose the elements of the sample. Also, it is conducted based on proximity and not representativeness. It is used when there are limitations on time and cost in feedback collection.

b. Purposive sampling

The discretion of the researcher forms this kind of non-probability sampling. In purposive sampling, the researcher simply considers the study purposes, as well as the understanding of the target audience.

c. Quota sampling

Here, the member selection occurs based on a pre-set standard. In this case, when the sample is formed based on particular features, the created sample will have the same qualities found in the total population. This kind of technique is rapid.

d. Snow-ball sampling

The researcher uses this kind of technique when the topics are hard to trace like illegal

immigrants. Also, it is used when the subject are very sensitive like HIV Aids.

B. AIMS OF SAMPLING

Here are some aims of sampling in research:

1. Saves cost

Sampling is very useful since it can reduce the cost of the researcher's project. A research that is based on samples absolutely costs lower than a research that is based on a census.

2. Saves time

By reducing a larger population into smaller subsets, the researcher frequently can save the most essential aspect which is time.

3. Increases chances of accuracy

Sampling can help the researcher to increase the accuracy of the results.

4. Only way to deal with large populations

The only method that can be used if the population contains so many members is sampling.

5. Studying whole population can be destructive

Sampling is the only method that can be used to identify the destruction of any item under study.

6. Helpful for inaccessible population

Sampling can really help the researcher when the population under study is inaccessible. The researcher can choose samples, then draw

conclusions and generalize the results to the entire population.

C. CHACTERISTICS OF A GOOD SAMPLE

There are several characteristics of a good sample. They are:

1. Goal-oriented

A sample must be goal-oriented. It means that the sample should be oriented to the research objectives and appropriate to the condition of the survey.

2. Precise representative of the population

A sample must be precise representative of the population. It will be representative when it represents the whole population. Thus, the researcher should choose the sample carefully.

3. Proportional

A sample must be proportional. It should be large enough so that it will represent the whole population properly.

4. Random selection

The researcher should choose samples randomly. It means that all population members have the same chance in being chosen.

5. Economical

A sample must be economical since the research objectives should be accomplished with minimum cost and effort.

6. Practical

A sample must be practical or simple so that it will be understandable.

7. Actual information provider

A sample should provide information needed in the research project.

D. BASIS OF SAMPLING

Sampling is based on two presumptions as the following:

1. There is similarity among the population elements which several of those elements will represent the characteristics of the whole population.
2. While the value of the sample (statistic) may be more than the value of the population (parameter), the sample value of other sample groups may be less than the value of the population.

E. ADVANTAGES OF SAMPLING

Here are some advantages of sampling:

1. It saves time since the researcher does not put much effort in identifying the whole population.
2. It avoids monotony in the research project since the researcher should not repeat the questioner to the whole population.
3. It saves time since the researcher should not investigate the entire population.
4. It increases the chances of accuracy.
5. The researcher will be able to gain specific information needed just by using smaller subsets.

F. DISADVANTAGES OF SAMPLING

Although sampling has so many advantages, it has disadvantages as well. They are:

1. There is a chance of biasness since the sampling method is judgmental work.
2. An imprudent sampling method can bring about the entire process to be invalid.
3. It is hard to select the proper size of samples.
4. A sampling method can expel some data which might not be homogenous to the data collection and this can impact the level of the result accuracy.

G. QUESTION

1. What is sampling?
2. Explain the characteristics of a good sample!
3. What is probability sampling?
4. Mention the advantages and disadvantages of sampling!
5. Mention and explain types of sampling!

CHAPTER 6
DATA COLLECTION TOOLS

A. INTRODUCTION

Tools of data can be defined as instruments that are used for collecting the data. Selecting the tools for collecting data is very essential since research is conducted in various methods and aims.

B. INTERVIEW

One of data collection methods that can be used is interview. An interview is a face-to-face conversation between two people to collect the data or information required. There are three types of interview, structured, semi-structured, and unstructured interviews.

1. Structured interview

   A structured interview is a questionnaire administered verbally.

2. Semi-structured interview

   In this kind of interview, there are some key questions that cover the area ranges to be surveyed.

3. Unstructured interview

   Here, the researcher is allowed to gather a large range of information with an aim.

An interview has advantages and disadvantages as the following:

Advantages	Disadvantages
1. detailed information 2. flexible 3. precise data	1. time-consuming 2. expensive

Here are several tools that can be used in collecting data through interview method:

1. Digital camera
2. Audio recorder
3. Camcorder

C. QUESTIONNAIRES

It is a collecting data method through an instrument that is composed of a group of questions to get responses from people that it is administrated to. Questionnaires are designed to collect data from a group. There are three types of questions used, scale, fix-ended, and open-ended. Questionnaires have advantages and disadvantages as the following:

Advantages	Disadvantages
1. The researcher can conduct this method in a large number of groups. 2. The researcher can compare and contrast the previous research to measure the change. 3. The researcher can visualize and analyze easily. 4. The respondents are protected. 5. It can cover all scopes of the subject. 6. Inexpensive.	1. The respondents may answer the questions dishonestly. 2. It cannot produce qualitative data. 3. Not all questions can easily be analyzed.

The tool that can be used in collecting data through questionnaires method is paper questionnaire

D. REPORTING

Reporting is a process of collecting and submitting the data to the further administered to analysis. The data should be precise since the imprecise data will bring about unreliable decision-making. A reporting method has advantages and disadvantages as the following:

Advantages	Disadvantages
1. Reliable decision making 2. Easy to do	1. It may be influenced by bias. 2. The respondents may not give detailed information. 3. Imprecise data will bring about unreliable decision making.

Here are several tools that can be used in collecting data through reporting method:

1. Newspapers
2. Website articles
3. Hospital care reports

E. CURRENT DATA

It is the addition of new investigative questions besides the ones formerly applied when the data was collected at first. This includes adding measurement to the study. Current data has advantages and disadvantages as the following:

Advantages	Disadvantages
1. High accuracy 2. The information is accessible	1. Hard to understand

Here are several tools that can be used in collecting data through the current study:

1. Surveys

2. Research journals

F. OBSERVATION

In this method, information will be collected through observation. Also, observation is the basic of hypothesis formulation. It has advantages and disadvantages as the following:

Advantages	Disadvantages
1. Can be administered easily 2. High accuracy 3. Proper for particular situations	1. Can be entrusted 2. Bias may appear 3. Expensive 4. Unpredicted accuracy

Here are several tools that can be used in collecting data through observation method:

1. Checklists
2. Direct observation

G. FOCUS GROUPS

It centers on the qualitative research. It gathers information based on the respondents' feelings and opinions. It includes asking open-ended questions to a group that consists of 6-10 individuals to present the feedback. Focus groups have advantages and disadvantages as the following:

Advantages	Disadvantages
1. Detailed information 2. Saves costs 3. It is rapid and effective in presenting the results	1. Bias may exist 2. The interviewer needs to be trained 3. The researcher has little control the results

Here are several tools that can be used in collecting data through focus groups:

1. Two-way

   One group watches the other group answering the questions that are given by the moderator. After they listen to what the group should present, then the group that listens can draw the conclusions (the conclusions drawn may be different).

2. Dueling-moderator

   There will be two moderators that play the devil's advocate. Dueling-moderator can facilitate new ideas by presenting new methods of thinking viewpoints.

H. COMBINATION RESEARCH

This kind of method contains the application of new technique to improve participation to both groups and individuals. Also, it is the best method when the subjects are considered sensitive. Combination research has advantages and disadvantages as the following:

Advantages	Disadvantages
1. It stimulates participants to give responses. 2. The participant relative anonymity increases the participants. 3. It increases the data collection richness	1. Expensive 2. Time-consuming

I. QUESTIONS

1. What is data collection tool?

2. In your opinion, what is the difference between questionnaire and interview?
3. What are the advantages of using questionnaire?
4. What are the disadvantages of using questionnaire?
5. Mention the advantages and disadvantages of interview!
6. Mention the advantages and disadvantages of observation!
7. Explain methods used in collecting the data!

CHAPTER 7
DATA ANALYSIS

A. DEFINITION OF DATA ANALYSIS

Data analysis is a process of evaluating data using reasonable and logical interpretation to test every data component collected. The principal goal of data analysis is to find meaning in the data so that the derived knowledge can be employed to make reliable decisions.

B. TYPES OF DATA ANALYSIS

Data analysis can be divided into several kinds as the following:

1. Text analysis

It is also known as Data Mining. Text analysis is used to find a pattern in large data groups using data mining tools (databases). Also, this kind of data analysis used to change raw data into business information.

2. Statistical analysis

Statistical analysis presents "What happen?" by using previous data in the form of dashboards. This kind of data analysis involves collection, analysis, perception, presentation, and modeling of data. It examines a group of data. Statistical analysis is divided into two kinds as the following:

a. Descriptive analysis

It examines total data or a sample summarized numerical data. It presents mean and deviation for constant data while percentage and frequency for categorical data.

b. Inferential analysis

It examines total data. Here, the researcher may discover various conclusions from the same data.

3. Diagnostic analysis

It presents "Why did it happen?" by discovering the causes from the perception found in statistical analysis. Diagnostic analysis can help the researcher to analyze behavior patterns of data.

4. Predictive analysis

This kind of analysis presents "What is likely to happen?" by using the past data.

5. Prescriptive analysis

It combines the perception from all former analysis to conclude which action to take in an existing problem.

C. PROCESS OF DATA ANALYSIS

There are several steps of analyzing the data. They are:

1. Data requisite gathering

The first thing that should do is thinking what the purpose of your data analysis. Then, decide which data analysis type that you will choose. In this step, you have to determine what to examine and how to measure it.

2. Data collection

The next step is gathering the data. You have to remember that the collected data should be organized for analysis.

3. Data cleaning

After collecting the data, you have to make sure that the collected data is clean and free from errors.

4. Data analysis

After collecting and cleaning the data, it is time for analyzing your data. In this step you are able to apply tools of data analysis as mentioned in the previous chapter.

5. Interpretation of data

The thing that you should do after analyzing the data is interpreting the data. You may decide the method to interpret your data analysis such as by using words, table, or chart.

6. Data conclusion

Data conclusion can be in form of charts and graphs so that it will be easy to be understood by human brains.

D. QUESTIONS

1. What is data analysis?
2. What is the purpose of data analysis?
3. Explain descriptive analysis!
4. Mention and explain types of data analysis!
5. Explain the process of data analysis!

CHAPTER 8
DATA INTERPRETATION

A. DEFINITION OF DATA INTERPRETATION

Interpretation of data can be defined as the process of analyzing the data through several pre-defined processes that will help to select some meaning to the data and reach significant results. It includes taking the data analysis results, making interpretation on the relations studied and employing them to draw conclusions.

B. GOALS

There are several goals of data interpretation as the following:

1. To make clear the actual material meaning in the context.
2. To understand significance of the data.
3. To present conclusion indications and suggestions for the researcher.
4. To specify the essential generalization.

C. CONSIDERATIONS

There are several considerations when interpreting the research data. They are:

1. Not ignoring the aspects that are not studied.
2. Not ignoring the aspects that have not been chosen for the study.
3. Not over interpreting the desired results.
4. Not exercising defense method in interpreting results.

D. QUESTIONS

1. Define the meaning of data interpretation by using your own words!
2. Mention the purposes of data interpretation!
3. What are factors that the researcher should consider in data interpretation?

CHAPTER 9
DESCRIPTIVE OR SURVEY METHOD

A. DEFINITION

Descriptive research is different from the experimental one. Experimental research investigates the effect of manipulation. In descriptive research or survey research there is no such manipulation.

Descriptive research includes survey, ex-post facto or causal comparative, correlation, and qualitative research. Assessment and evaluation do not belong to research. Survey usually involves a large group of population that requires random sampling. The instrument of collecting the data is usually questionnaire or test and the data is usually analyzed using basic simple statistic formula.

Survey is an investigation method by collecting data from population when the needed data for a particular problem cannot be found in files, reports, records, and other sources. It is essential to be used to collect data for certain phenomena.

"A social survey is a process by which quantitative facts are collected about the social aspects of a community composition and activities (Mark Abrams, 1951)."

According to A. F. Well, "The survey is a method of analyzing in scientific and orderly form for defined purpose of given social situation of problem and population."

Objects for social survey are direct contact of the researchers to the phenomena being studied, collecting general information, and hypothesis basis; explain cause-effect relationships, knowing people's attitudes and opinions.

B. CHARACTERISTICS

There are several characteristics of descriptive method. They are:

1. It is the study of particular existing problems of society like retirement and poverty.
2. It is planned group of data to predict the relationships between the variables.
3. It is concerned with a large population.
4. Things used to collect the data are attitude scales, observation, interviews, etc.
5. The collected information may form the further social research basis.

C. DESIGNING A DESCRIPTIVE METHOD

Here are some steps used in survey method:

1. Choose the problem.
2. Do the preliminary study.
3. Frame the general goals and the specific ones of the study.
4. You should determine that for which of the variables, analyzed in the problem whether sufficient methods for data collection is available, if not the researchers can design them.
5. Identify the population and choose the sample.
6. Prepare the design of data collection.
7. Collect the data.
8. Analyze the data.
9. Prepare the report.

D. ADVANTAGES

There are some advantages of survey method. They are:

1. There is no distance between the researchers and the respondents.
2. Greater objectivity.
3. It is useful for examining the theory validity.
4. It is useful for formulating and examining the hypothesis.
5. Universal use.

E. DISADVANTAGES

Although survey method has advantages, it has disadvantages as well. Here are some disadvantages of survey method:

1. It is expensive and time consuming.
2. It is not appropriate for very wide population.
3. Individual bias can invalidate the results.
4. It is inflexible.
5. The data collection accuracy is hard to verify.
6. It is only appropriate for the existing problems.
7. More inclusive study is not allowed.
8. The results will be unreliable if the sample is not planned concernedly.

F. QUESTIONS

1. Mention the differences between the experimental research and the descriptive one!
2. Suggest some topics for survey research in English learning!
3. What is the characteristic of survey method?
4. Who can be the subjects of a survey research?
5. Mention the steps which are involved in planning survey method!
6. Describe the instrument to collect data in survey research!

CHAPTER 10
EXPERIMENTAL METHOD

A. DEFINITION

Here are some definitions of experimental method:

1. Experimental method can be defined as the method used in examining the hypothesis.
2. According to Jahoda, "An experiment is an observation under controlled condition (Singh, 2007 p.134)."
3. F. S. Chapin states, "Experimental research is the description and analysis of what will be or what will occur, under carefully controlled condition (Singh, 2007, p. 134)."
4. John W. Best says, "Experiment is a means of providing the hypothesis whereby the causal relations between two facts in studies (Singh, 2007, p. 134)."
5. According to Green Wood, "The essence of an experiment may be described as observing the effect on a dependent variable of the manipulation of an independent variable (Singh, 2007, p.135)."

B. TYPES OF EXPERIMENTAL RESEARCH

Several types of experimental designs discussed here include true experimental, quasi experimental, pre-experimental, and factorial design.

1. True experimental

Here, the sample is chosen randomly to make sure the equivalence of groups and to control for

many interfering variables that might contrarily corrupt the investigation results.

2. Quasi experimental

The researchers use this quasi experimental when they can only randomly select different treatments to two different groups.

3. Pre-experimental research

Here, before the experimental treatment, the researcher gives the population a pre-test.

4. Factorial design

It is used when the research manipulates the experimental variable.

C. CHARACTERISTICS OF EXPERIMENTAL RESEARCH

Here are some characteristics of experimental research:

1. It is based on the single variable rule.
2. More appropriate when it is used in social or educational research.
3. It examines the specific hypothesis of various goals.
4. Free bias.
5. It aims to manage the condition of a certain variable.
6. It arranges less or more the new type of relationships between the phenomena.
7. Standardized device is used in experimental research to make the evidence objective.
8. The samples are chosen carefully.
9. It is useful for helping in the law development.

10.Precision and definiteness are allowed.

D. ELEMENTS

Here are some elements of experimental research:

1. Control

   It is the range to which various factors are explained.

2. Manipulation

   It is conducted to arrange the step the factor occurrence whose performances are being studied is under controlled conditions.

3. Observation

   It is used when there is no possibility of measurement.

4. Replication

   Even though efforts of arranging irrelevant variables are done, several irrelevant variables and several contrarieties still remain and affect the result. Therefore, replication is important for projecting some sub-experiments within the framework of the whole investigation.

E. EXPERIMENTAL VALIDITY

Experimental validity can be defined as the way whereabouts variables which impact both results of the research and generalizability to the population at large. We can divide it into two kinds. They are internal validity and external validity.

1. Internal validity

   Internal validity can be defined as "The extent to which a study builds a trustworthy cause and effect relationship between a treatment and an outcome." It depends on the process of the study and how reliably

it is carried out. Here are some criteria to make sure whether your study is valid:

a. The cause advanced the effect in terms of time;
b. The cause and effect diverge as one;
c. There is no presumably information.

Here are some aspects which improve internal validity:

a. Blinding

Participants and researchers that are unconcerned about what interruption they are getting to avoid this knowledge biasing their thoughts and thus the results of the study.

b. Experimental manipulation

It means that the researcher manipulates an independent variable in research instead of just examining an affiliation without carrying out any interruption.

c. Random selection

The researcher selects the participants randomly.

d. Randomization

The researcher assigns participants randomly to treatment and control groups and makes sure that there is no bias between them.

e. Study protocol

The researcher follows particular procedures to administrate the treatment.

On the other hand, there are some aspects which threaten internal validity. They are:

a. Attrition

Participants leave the study so that it makes the results based on bias.

b. Confounding

It is a situation in which shifts in a result variable can be thought to have resulted from some third variable that is related to the treatment the researcher carried out.

c. Diffusion

Diffusion can be defined as the treatment in study spreading from the treatment group to the treatment group to the control group through the groups interacting and talking with or observing one another.

d. Experimenter bias

The experimenter behaves in a different way with different groups in a research that influence the outcome of the research.

e. Historical events

It can impact the results of the research which happen over a period of time.

f. Instrumentation

It is possible to brief the participants in particular methods with the measures which the researcher uses.

g. Maturation

It illustrates the effect of time as a variable in a research.

h. Statistical regression

It can be defined as the natural effect of participants at extreme ends of a measure falling in a particular direction just due to the passage of time rather than the effect of an intervention.

i. Testing

If the researcher examines the participants repeatedly using the same measures, it will impact the results.

2. External validity

External validity can be defined as, "How well the outcome of a study can be expected to apply to other setting". There are things you can do to improve external validity. They are:

a. The researcher should think of the psychological realism;
b. The researcher should do reprocessing or calibration;
c. The researcher should replicate;
d. The researcher should try field experiments;
e. The researcher should use inclusion and exclusion criteria.

Here are some factors that threaten external validity:

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a. Pre- and post-test impacts

It happens when the pre- or post-test in several ways related to the impact seen in the research.

b. Sample features

It happens when several features of the specific sample is responsible for the impacts.

c. Selection bias

It illustrates the differences between groups in a research.

d. Situational aspects

It includes time of day, noise, researcher, location, etc.

F. QUESTIONS

1. What is experimental research?
2. What makes experimental research different from non-experimental?
3. Explain the difference between true-experimental, pre-experimental, and quasi experimental!
4. Explain the difference between internal validity and external one.
5. Mention method used for controlling research in experimental research!

CHAPTER 11
RESEARCH PROPOSAL

A. THE DEFINITION OF RESEARCH PROPOSAL

A research proposal can be defined as, "A document proposing a research project, usually in the sciences or academia, and usually constitutes a request for sponsorship of that research" (Singh, 2007, p. 244). Here are some points that research proposals commonly address:

1. What and how research questions will be addressed;
2. How much money and time will be needed for the study;
3. What previous research has been done on the subject;
4. How the research results will be examined;
5. How the research will bring advantages for the sponsoring group and other parties.

B. TYPES OF RESEARCH PROPOSAL

There are five kinds of proposals. They are:

1. Solicited proposals

   This kind of proposal can be defined as,"A proposal that is submitted to a particular call issued by a sponsor".

2. Unsolicited proposals

   This kind of proposal can be defined as, "A proposal that is submitted to a sponsor that has not issued a particular solicitation, but it is believed by the investigator to have an interest in the topic".

3. Proposals

This kind of proposal can be defined as, "A proposal that is requested by a sponsor that wants to minimize an applicant's effort in preparing a full proposal". It is commonly written in the form of letter of intent or brief abstract.

4. Continuation or non-competing proposals

This kind of proposal can be defined as, "A proposal that confirms the original proposal and funding requirements of a multi-year project that sponsor has provided funding for an initial period (commonly one year)".

5. Renewal or competing proposals

This kind of proposal can be defined as, "A proposal that requests continued support for an existing project that is going to end".

C. CHARACTERISTICS OF GOOD PROPOSAL

Here are some characteristics of good or successful proposal:

1. It is original;
2. It involves particular goals;
3. It involves preliminary data;
4. It describes approach;
5. It signifies the implication of the proposal with regard to the particular award and states its effect on science and the personal growth of the researcher.

D. GUIDELINES

When writing your proposal, make sure that your proposal includes:

1. Title

   Make sure that your title is explicit and to the point (keep it short).

2. Introduction

   Here you should introduce the questions and topics central to your research. Also, you should signify the area of the study in broad terms and signify how you would want your study to succeed in the field.

3. Research background and questions

   In this part you can expand your introduction by answering these questions:

   a) What are the key texts in the field?
   b) What are the approaches in the field?
   c) How is your proposal different from existing lines or arguments?
   d) How does your study contribute to the existing study in the field?
   e) How does it extend our knowledge of certain questions?

4. Research methods

   In this part you should arrange how you will get what you arrange to in research background and questions.

5. Schedule of work

   In this part you have to show that you have a reasonable plan to complete your research.

6. Bibliography
   You should include a bibliography in a standard format.

E. EXAMPLES OF RESEARCH PROPOSAL

You can check the following link to get several examples of research proposal:

https://www.yorksj.ac.uk/study/research/apply/examples-of-research-proposals/

CHAPTER 12
RESEARCH REPORT

A. THE DEFINITION OF RESEARCH REPORT

Research report can be defined as, "Recorded data prepared by the researcher after he/she analyzes information gathered by carrying out organized research, usually in the form of surveys or qualitative methods" (Singh, 2007, p. 244).

B. ELEMENTS OF RESEARCH REPORT

Here are several elements of research report:

1. Summary

   The summary should catch all the key points of your report. And remember that you should write the summary of your report briefly.

2. Background/introduction

   In this section you should explain the goals that you want to achieve in your work.

3. Implemented methods

   This is the most essential part of the research report. Therefore, the researcher should make this part very informative and detailed so that the readers can get information as much as possible.

4. Results based on analysis

   This section involves a brief description of the results along with calculations carried out to accomplish the goals.

5. Deliberation

The result of the research then is discussed in this section.

6. Conclusion

In this section you should conclude the results of the research and do not forget to mention the references.

C. CHARACTERISTICS OF A REPORT

Here are some characteristics of a good research report:

1. Precise
2. Accurate
3. Relevant
4. Reader-oriented
5. Simple
6. Concise
7. Grammatically correct
8. Unbiased
9. Clear
10. Attractive

D. HOW TO WRITE RESEARCH REPORT

Here are some steps that you should follow in writing research report:

1. Analyze the task

The first thing that you should do is analyzing the task. Here are several questions that may help you analyze the task:

a. What is the goal of your report?
b. Who is the audience of your report?
c. What is the topic of the report?

d. What is the expected format of the report?

2. Arrange a rough plan

In this step you should write a thesis statement of the goals of your report and you have to write anything that you know about your topic as well.

3. Do the research

The third step is that you have to do a research on a topic you have chosen.

4. Draft the report body

Generally, the body of the report includes:

a. Introduction
b. Literature review
c. Results
d. Discussion
e. Conclusion
f. Conclusion
g. Recommendations

5. Draft the supplementary material

The supplementary material includes:

a. References
b. Appendices

6. Draft the preliminary material

The preliminary material includes:

a. Title of the report
b. Table of contents
c. Abstract/synopsis

7. Polish your report

The last step is that you have to check your report to make sure that you have followed the guidelines.

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E. GUIDELINES FOR WRITING RESEARCH REPORT

Here are some guidelines for writing your research report:

1. Know your goal

   Before writing a report, you have to know your goal in writing it.

2. Know your audience

   In writing research report, you have to know who your audience is.

3. Know your objective

   After you have known your goal and audience, you can now try to consider your objective in writing your research report.

4. Choose an approach

   You can use a top-down approach to write your research report. Here you have to start with the thesis statement, then information-gathering and the last is refining the process.

5. Decide on structure

   You can use the previous structure in point B as the following:

   a. Summary
   b. Background/introduction
   c. Implemented methods
   d. Results based on analysis
   e. Deliberation
   f. Conclusion

6. Use the right style

Here you have to use the right style like use efficient language and keep the report simple.

7. Consider layout

The layout here includes fonts and visuals.

8. Leave time to refine

The last is that you have to check your report to make sure it is well-written.

For some examples you may download articles from these links

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