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Challenges to Write an Excellent Research

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Introduction

Thesis writing is complex. Thesis is an acquisition and, at the same time, a dissemination of new knowledge. A well-written thesis reveals knowledge of the researcher; it also shows understanding and appreciation of the field. Thesis is a critical rather than a descriptive work. Thesis writing is the culminating point of years of preparation. A successfully written thesis must be original, appealing, and be an important study in terms of other researches. When a researcher says that he is undertaking a research study to find answers to a question, he is implying that the process:

- is being undertaken within a framework of a set of philosophies (approaches);
- uses procedures, methods and techniques that have been tested for their validity and reliability; and
- Is designed to be unbiased and objective.

Here Philosophies mean approaches e.g. qualitative, quantitative and the academic discipline in which a researcher has been trained. Validity means that correct procedures have been applied to find answers to a question. Reliability refers to the quality of a measurement procedure that provides repeatability and accuracy. Unbiased and objective means that the researcher has taken each step in an unbiased manner and drawn each conclusion to the best of his ability and without introducing his own vested interest. Adherence to the three criteria mentioned above enables the process to be called 'research'.

The word research is composed of two syllables, re and search. Re- is a prefix meaning again, anew or over again. Search is a verb meaning to examine closely and carefully, to test and try, or to probe. Together they form a noun describing a careful, systematic, patient study and investigation in some field of knowledge, undertaken to

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establish facts or principles. Research is a structured enquiry that utilizes acceptable scientific methodology to solve problems and create new knowledge that is generally applicable. Scientific methods consist of systematic observation, classification and interpretation of data.

Any serious work in any area of Phonology falls under scientific research. At various universities, this discipline is put under the faculty of science and offer courses like B Sc or M Sc in Linguistics or Applied Linguistics or Phonetics and Phonology. A good research is an endeavor to discover an intellectual and practical answer to problems by applying scientific methods to the knowable universe. According to Einstein and   Enfield (1983)[1]: "Science is the attempt of the human mind to find a connection between the world of ideas and the world of phenoments. All the essential ideas in science were learnt in dramatic conflict between reality and our attempt at understanding the same."

It is not always possible that science will surely come out with an answer, let alone a definite and correct answer. Sometimes it also has failed to unravel some of the persistent mysteries of human existence. In this connection, Thompson[2] rightly observes:

"The vulgar belief that science has explained everything is a hopeless misunderstanding."

It may perhaps no longer be said that science is the only process of knowing the reality. There may be other ways which leads to truth, but scientific procedures seem more likely to lead us there than any other method devised by man. The statement of Karl Pearson written below represents, by and large, the deep faith of modern age. Pearson (1911)[3], in his "Grammar of Science", says that - "There is no shortcut to the truth, no way to gain knowledge of the universe except through the gateway of scientific method."

Research is a process of collecting, analyzing and interpreting information to answer questions. But to qualify as research, the process must have certain characteristics: it must, as far as possible, be controlled, rigorous, systematic, valid and verifiable, empirical and critical. A researcher must become acquainted with the large range of different research designs employed by Applied Linguists, both qualitative and quantitative. Techniques are chosen in order to produce different types of products: observation, classification, measurement, control, prediction. The selection of a given technique and research design can be best appreciated through consideration of the current conventions used in the field.

The research process is broken down into two phases: formulating the question, and seeking the answer. In formulating the question the researcher decides how to identify a research problem, narrow the topic to focus on the relevant issues, review previous research literature, formulate an answerable question, and state

hypotheses of expected outcome. In seeking the answer, he decides how to collect data, analyze findings, interpret evidence, summarize and draw significant conclusions. A researcher also needs to gain an appreciation of the variety of different motivations for research– to characterize phenomena, gain new insight, solve problems, verify applications or test models, etc. A proper Research method equips a researcher with an understanding of a multiplicity of methods, i.e., the process and the product of research. In the process of research one may define a problem, state an objective, formulate a hypothesis or test a prediction. The product of research may result in a description, analysis, evaluation or explanation. It is important that the researcher also gains an understanding *what* is researched and *why*?

Methodology (the science of method, or orderly arrangement) is the science dealing with principles of procedure in research and study. It is the pathway or an approach to get the needed information by locating the data from different sources which are primary & secondary. A systematic, diligent, scientific, evidenced based method to pursue a research in any discipline is the best method. As it is already discussed, the word research is the combination of two words- first is re and the second is search, to search again; it is the process of gain new knowledge as well as old in a systematic and scientifically manner. According to Baskerville, R.[4] (1991), "Methodology is the study or description of methods. It is a documented process for management of projects that contains procedures, definitions and explanations of techniques used to collect, store, analyze and present information as part of a research process in a given discipline."

Methodology is the key element when it comes to research writing. It is referred to as special uses of tools and strategies for data collection and analysis. While data collection, methodologies include questionnaire development, observations and interviews, data analysis (which covers statistical analysis, semiotic analysis, discourse analysis, and content analysis, etc.). Methodology withstands the most outrageous criticism. It has a well supported rationale for choice of methods for both data collection and data analysis. In the words of Katsicas, Sokratis K.[5] (2009), "Methodology doesn't describe specific methods; nevertheless it does specify several processes that need to be followed. These processes constitute a generic framework. They may be broken down in sub-processes, they may be combined, or their sequence may change. However any task exercise must carry out these processes in one form or another."

Methodology part of the thesis writing process includes a description of the sampling method to be used in the work as well as justification for it. It describes the materials that will be used in the data collection process: questionnaires, tests, special equipment, etc., and at the same time, addresses both validity and reliability of the instruments and describe how they were used in data collection. Sampling method is

a part of the thesis writing process. Following a competently written methodology, a knowledgeable researcher must be able to reproduce the results in exactly the same way, as it has been done in his thesis.

Research Design

Research design is the conceptual structure within which research would be conducted. The function of research design is to provide for the collection of relevant information with minimal expenditure of effort, time and money. Whatever be the objectives sought by the individual survey researcher, there are several standards the researcher would like to adhere to. The preparation of research design, appropriate for a particular research problem, involves the consideration of the Objectives of the research study, Method of data collection to be adopted, Source of information (Sample Design, A sample is a portion of elements (people or things) taken from the larger population and the process of drawing those elements from the larger population or universe is called sampling. A sampling thus specifies (a) how elements will be drawn from the larger or "present" population and (b) the number of elements to be drawn.), Tool for Data collection, Data Analysis (qualitative and quantitative) are some of the important aspects that determine the findings and conclusions of a research.

In the process of formulating the research design, the investigator must determine whether or not to use some kind of sampling plan. If he plans to study people, he may elect to study a particular population of them or only a portion of element taken from the larger population or universe. In making this decision he usually considers at least three important factors- the size of the population, the cost of obtaining the elements, and the convenience and accessibility of the elements.

Instrumentation

The main instruments for study may be a questionnaire and observation schedules. The researchers should design questionnaire by generating a list of items, which solicit students' responses on teaching strategies, instructional resources/media use by the teachers and the teaching/learning environment. The items in the questionnaire may derive from the researcher's experience in the field. The range of data collection instruments employ may be increased the researcher's ability to examine the nature and frequency with which certain variables occurred in the research setting. The specifics for each of the two data collection instruments used in the study are as follows:

- **Questionnaire:** This instrument may four sections dealing with demographic items such as school type and location; instructional resources/media used by the teachers frequently, methods teachers frequently adopted for teaching English language, and the school environment.

- **Observation:** Research assistants are trained to observe each classroom and some classroom proceedings during administration of the questionnaire noting the features or characteristics of the learning environment.

The face validity of the instrument may ascertained by presenting the questionnaire to a group of referees in the areas of educational psychology, educational technology, and curriculum and instruction. The experts have some observations and modifications on the items.

Determining Sample Design & Tools for Data Collection (Research Instruments)

The construction of a research instrument or tool for data collection is the most important aspect of a research project because anything a researcher says by way of findings or conclusions is based upon the type of information he collects, and the data he collects is entirely dependent upon the questions that he asks of his respondents.

While preparing the questionnaire, the researcher has ensured the validity of instrument by making sure that his questions relate to the objectives of his study. The researcher has clearly defined and individually listed all the specific objectives or research questions for his study. For each objective or research question, he has listed all the associated questions that he wanted to answer through his study. Because there are many ways to ask questions, the questionnaire is very flexible. The questionnaire developed by the researcher is a combination of both closed ended questions which include all possible answers/prewritten response categories, and respondents are asked to choose among them, and open-ended questions that allow respondents to answer in their own words. Once the researcher has constructed his questionnaire, he tested it out to see if it is obtaining the result he requires. This was done by asking people to read it through and see if there are any ambiguities which the researcher has not noticed. They were also asked to comment about the length, structure and wording of the questionnaire.

- **Collecting Data**

Having formulated the research problem, developed a study design, constructed a research instrument and selected a sample, the researcher then collected the data from which he drew inferences and conclusions for his study. Depending upon his plans, he commenced interviews, mailed out a questionnaire, conducted experiments and made observations.

Research is required to improve conditions. In every discipline it is considered unethical to collect information without the knowledge of the participant, and their expressed willingness and informed consent. So, the subjects were made adequately aware of the type of information he wanted from them, why the information was being sought, what purpose it will be put to, how they were expected to participate in the study, and how it will directly or indirectly affect them. It was important that the consent should be voluntary and without pressure of any kind. In collecting data the

researcher was all careful about the sensitivities of his respondents. The researcher also tried to avoid any sort of possibility of causing harm to participant where harm includes hazardous experiments, discomfort, anxiety, harassment, invasion of privacy, or demeaning or dehumanizing procedures. The researcher has maintained confidentiality and in such a situation he needed to make sure that at least the information provided by respondents were kept anonymous. The researcher has taken care of all the ethical issues on the part of a researcher like, avoiding bias, provision or deprivation of a treatment, using inappropriate research methodology, incorrect reporting, inappropriate use of the information, etc.

- **Processing and Analyzing Data**

Processing and analyzing data involves a number of closely related operations which are performed with the purpose of summarizing the collected data and organizing these in a manner that they answer the research questions (objectives). The Data Processing operations include editing (a process of examining the collected raw data to detect errors and omissions and to correct these when possible) and classification (a process of arranging data in groups or classes on the basis of common characteristics depending on the nature of phenomenon involved). Data can be analyzed on the basis of common characteristics which can either be descriptive or numerical. Tabulation may also be classified as simple and complex tabulation. Simple tabulation generally results in one-way tables which supply answers to questions about one characteristic of data only. Complex tabulation usually results on two-way tables (which give information about two inter-related characteristics of data), three–way tables or still higher order tables, also known as manifold tables.

- **Data Analysis Methods**

The researcher has used both- Qualitative and Quantitative- methods for the analysis of his data. Qualitative data analysis is a very personal process with few rigid rules and procedures. For this purpose, the researcher went through a process called Content Analysis, i.e., analysis of the contents of an interview in order to identify the main themes that emerge from the responses given by the respondents. This process involved a number of steps, e.g., identifying the main themes, assigning codes to the main themes, classifying responses under the main themes, and integrating themes and responses into the text of his report.

Quantitative Data Analysis method is most suitable for large well designed and well administered surveys using properly constructed and worded questionnaire. Data can be analyzed either manually or with the help of a computer. The researcher has used Manual Data Analysis method for calculating frequencies and for simple cross tabulations. Detailed headings were used and question numbers were written on each column to code information about the question. To manually analyze data (frequency distribution), the researcher counted various

codes in a column and then decoded them. Besides, the researcher analyzed data using computer too, being fully aware of any inaccuracy which might influence the final results. The data collected were analyzed using simple percentages, charts and graphs. Simple percentage is the most widely used descriptive statistics which could yield valuable quantitative and qualitative results. Qualitative results in the sense that it is the basis of graphic illustrations such as pie chart, bar chart and histogram. Simple percentage is relevant in quantitative illustration because it is useful in simple explanation of basic differences or similarities that could exist between or among the variables under observation.

Challenges for a Researcher

For the success of any scientific research, it is very important to select such tools which could collect the information reliably and objectively. Two important things-the method of data collection (which may allow the researcher to go deep into the respondents' minds regarding his/her views on the given problem), and appropriate tools to measure the given phenomenon quantitatively while analyzing the underlying relationships between different aspects of given phenomenon – are the backbone of any research work.

Taking in to consideration these two major aspects, it's quite logical for a researcher to decide using structured interviewing which will be consider very appropriate method for collecting primary data in a face-to-face situation. In spite of being a time-consuming process of data collection, it is preferred to other methods because it provides rich and reliable data. The respondents are less likely to evade, more sincere and are generally found more co-operative and attentive in recording their reactions and views, thus individual structure interviewing is used for data collection from the respondents select in the sample, and hence, a reading list consisting of hundreds of words, sentences, and two short dialogues are constructed for.

Beyond the expectation of the researcher the collection of the data will never an easy game. It is really a difficult task to convince most of the heads of the institutions as well as respondents to cooperate in the process of data-collection. The researcher has to bear great pain to justify before the respondents the relevance of the research which he is conducting. So, the subjects should be adequately aware of the type of information he wants from them, why the information is being sought, what purpose it will be put to, how they are expecting to participate in the study, and how it will directly or indirectly affect them. It is important that the consent should be voluntary and without pressure of any kind.

The respondents have so many reservations which will forbid them to co-operate willingly and whole heartedly. This is very natural because people are generally shy of camera and tape-recorder. They probably think that they are being recorded for the purpose of finding out the errors in their use of English and no one

will ever willingly offer himself/herself for such exposition. They will also feel that their English may make a fool of them. On the other hand there are some who will think that they speak the best English in the world and will try to show off subject they are at a very pitiable state. There are some others who are extra conscious and also afraid that their speech might be misused. The researcher have a real tough time in convincing some of them that this is being done for the sake of academic research only and everything will be kept strictly confidential.

In collecting data the researcher should have to all careful about the sensitivities of his respondents. He should have also tried to avoid any sort of possibility of causing harm to participant where harm includes hazardous experiments, discomfort, anxiety, harassment, invasion of privacy, demeaning or dehumanizing procedures. The researcher should maintain confidentiality and in such a situation he needs to make sure that at least the information provided by respondents are kept anonymous.

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