Research Procedure

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Summary
3.1 Research Procedure

3.1.1 Good Research design

"A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure." * It can be rightly described as the conceptual structure of the research to be conducted. The research design constitutes the blueprints for the collection, measurement and analysis of data. "An ideal research design is concerned with specifying the optimum research procedures that could be followed where there is no practical constraint" † Let the research here state the details of the design of the research undertaken.

• A clear statement of the research problem i.e. ‘A critical study of the grammatical mistakes committed by the students of X standard and recommendations for their improvement.’ The research is about the grammatical mistakes only. It is limited to the students of class X, studying Marathi as their first language.

• Procedures and techniques to be used for gathering information.

Diagnostic test based on grammatical items included in the X class

* Clair Sellitz and others, Research Methods in social sciences 1962 P 50.
† Ackoff R.L. :Design of social Research, 1961 P.11
syllabus for English (third language) was prepared and administered in various schools for bringing out the nature of mistakes. The items were containing various structures, tenses, clauses, transformation etc.

Questionnaire for English teachers was given to nearly 100 teachers teaching English (third language) in various schools and their answers depicting actual class experiences were collected and it was of a great help for the researcher. It maximized the reliability of the data collected and yielded maximal information and provided the researcher an opportunity to consider different aspects of the problem. Therefore, the questionnaire, containing fifty questions related to the teaching of English, proved of a great value. Research plays two roles and they are like contribution to the general fund of knowledge and helping to solve many complex problem. The questionnaire helped in solving the complex problem like nature of grammatical mistakes of the students and the often applied measures by the teachers to eliminate them.

Opinionnaire was prepared by the researcher to collect the opinions of the headmasters of various institutions, principals, eminent educationists, experienced and retire known personalities having concern with teaching English. It was served to nearly 20 personalities in this field and their valuable opinions were collected. It was 'experience survey' because it included such persons who had practical experience with the problem to be studied. The Opinionnaire was served to such people who were competent and could contribute new ideas that were of great help in solving the
problem under study. An interview schedule for the systematic questioning of informants was prepared and effectively utilized to find the clues to the research problem, concerning its creation and probable efforts to be done for solving it. The schedule was flexible because the respondents, many a times, were allowed to raise issues and questions which the researcher had not previously considered.

'The research problem must spring from the researcher's mind like a plant springing from its own seed'. It has described the apt nature of the birth of the research problem; it was rooted in the researcher's mind already. As the researcher is having vast experience and intimate relationship with the problem, at least to some extent. The researcher is quite hopeful that the research work will be of great help for solving this very intimate problem of the teachers and parents, educationists and personalities working in the administration of education field. The study was carried in the schools having Marathi medium.

The researcher is motivated by the simple reason and with a desire to be of service to society and get intellectual joy of doing some creative work. The motivation behind the research is definitely a sound proof to test how sincerely the researcher has done the work.

* Kothari C.R. Research Methodology; methods and Techniques, Wishwa Prakashan New Delhi.
As James Harold Fox has said about the good research design, it has also provided scope for another researcher to repeat the research for further advancement as the list of the further research topics is added to it. It is an exploratory or formulating research study as it is undertaken with a view to attain new insights into a phenomenon of committing grammatical mistakes.

In short a good research design is flexible, appropriate efficient, economical and so on. It is very suitable to research objective and nature of research problem.

"Good research is systematic, logical, empirical and replicable"*

3.1.2 Methods of Research

The techniques that are used for conducting research are called research methods. Research methods are more general and they generate techniques implied in research work. In fact they are interchangeable terms and methods encompass the techniques for their effective working. Research methods refer to the behaviour and instruments used in selecting and constructing research technique. For example, the present research adopted ‘survey method’ and uses techniques like questionnaire, opinionnaire and interview schedule. Research methodology has many dimensions and research methods do constitute a part of the research methodology.

* Ballenger N. Danny & Greenberg Barnett A-A Marketing Research Pg.-107
So research method itself implies the logic behind the methods we use, in the context of the research study. The method itself shows the researcher path to prosecute, the study onward for collecting data, appropriate to particular problem.

Being applied research, the problem is identified and the results are expected to be applicable in the solution to a problem. Questionnaires for English teachers, Opinionnaires for the headmasters, Principals, eminent educationists and interview schedule for parents, leaders were the methods (techniques) used to collect data and drawing the inferences which confirmed the hypotheses. Even telephonic interview proved to be very useful as a research method. The methods employed, contained questions like importance of English in present day situation for career making, various types of mistakes (grammatical) committed in case of grammar included in the syllabus, teachers' day-to-day experiences, the solution they have found out, the remedies suggested by the eminent persons working in the field of education and having interest in English teaching at different levels, worries of the parents whose wards are to appear for the S.S.C. examination all these clearly state review of the data collected.

The important among them was the Diagnostic Test that was actually given by the students learning in urban area, rural area taking special coaching in the coaching classes and their abilities were tested how far they can do in grammar. The blue print of the Diagnostic Test was prepared and administered to ten students of X class offering English (L.L.) Thereby, the
The researcher could find out the shortcomings in the test. The test was again prepared and put before the committee of experts. The committee included the following persons.

- Dr. Yosuf Khan (Guide)
- Shri Y.G. Joshi (Head Master)
- Smt. A. A. Borse (The Researcher)
- Shri M.I. Sharm (English Teacher)
- Shri Gajanan Budukale (English Teacher)

Thus the standardized Diagnostic test was prepared for final testing.

The interviews revealed parents’ strong opposition to present day syllabus of English which is being executed in the school. The parents also stressed upon the importance of coaching classes and said that they had to rely on them for their ward’s success.

3.1.3 Need of Study

The researcher has been teaching English (third language) to class X for nearly 25 years and is always confronted with grammatical mistakes that speedily lessen the students’ marks in English and leads him on to the path of failures. Even after painstaking and sincere teaching, the expected results were unattainable and the researcher was compelled to think where the shoe pinches. After sharing class experiences with colleagues and experts about the problem of grammatical mistakes, it haunted the researcher’s mind as to
why they often commit and what measures to be taken for their elimination. English (third language) being the compulsory important subject at S.S.C. exam, it is the centre of attraction as well as worries for the teachers, parents, students, head masters of different school and educationists who yet have not found the fundamental causes of this serious phenomenon i.e. students committing grammatical mistakes. The relevant research works were also studied by the researcher as to examine the current problem in the light of them. Research work of Basavayya D. on 'Effect of Bilingualism on language achievement.' For Ph.D. in Mysore Uni. 1974 was studied and the researcher knew the relative importance of the parental occupation and education as well as the fact that teacher’s children can do slightly better than others.

Other concerning research by Grewal S.S. Indurkhya B.L. titling as 'The minimum adequate English language ability for higher seconday school teachers of English.' Measurements and survey submitted for Ph.D. in Education in Bhopal University, was studied. They stated the facts that post graduate teachers are superior to their graduate counterparts. Yet 48 % of graduate teachers possessed the proficiency ranging from average to excellent.

The researcher could find some clues to problem by studying the relevant research works. Yet ‘grammatical mistakes’ was the problem untouched and it made the researcher feel need of the study. Grammar, being the major part of the question paper and very anatomy of the English language, the mistakes lingered regarding grammar in the mind of researcher and the need of study in this area was felt.
3.1.4 Procedure of research

The data were collected by means of questionnaire, opinionnaire and interviews that form the methodology adopted for the present research. The Diagnostic Test, containing major grammatical items from the prescribed syllabus of X class was prepared and administered to 500 students in different schools. It contained 20 items of grammar and questions which were of objective type giving no choice for personal prejudices. 'A question is an important tool in the test construction. It is the chief device to elicit the necessary information of the learners.' Multiple choice type, joining the pair, choose the correct alternative, do write the structure as per the example, were the types of the questions. Students were fully aware of them and quite acquainted with them. They were framed as to diagnose where they go wrong and not to test them. 'They commit various grammatical mistakes regarding tense, syntax, clause, voices, narration was the hypothesis and the test was specially prepared to verify it. (It is given in the appendix.) The duration of the test was 1 ½ hour as it required deep thinking on the part of students while solving the test was required. The test was of 100 marks. It functioned like a mirror to reflect the shortcomings of the students.

Reference

A questionnaire containing 50 questions regarding grammar teaching-learning in X class about English (third language) was carefully prepared and served to nearly 100 teachers engaged in teaching English to X class. Some of them very highly qualified and experienced teachers who equally had felt the problem but not expressed it. The questionnaire also provide them a proper stage or channel to let their secret and hidden worries come out. They felt intimacy and showed their awareness to the problem being part of the union of English teachers. They promptly answered the questions.

The opinionnaire was especially prepared for Head Masters, eminent persons in the field of education and principals of renown institutions. It contained only 15 questions and they were also of objective type. Yet special space was provided in the opinion to note their very very personal opinions and it was very rightly filled up by all whose opinions were noted. While answering the opinions by tick marking the rightly felt probable alternative, some of the Head Master discussed about them in details with the researcher, eg. Mr. M.K. Pande, Head Master of B.R. High school, Akola said ‘Not students, parents, teachers or valuers are responsible for bad S.S.C. results but the actual persons who have framed faulty syllabus and compelled them to execute as it is in the school, are responsible. He also stated that ‘Grammar is not to be essentially taught as the term ‘accurate language’ itself shows ‘understanding of correct grammar.’ Interview schedule was served to the parents whose wards were to appear.
for S.S.C. examination. As it was rightly served in the reason of examination, parents were in the mood of vomiting their vows. They said that they have no other alternative to this problem of grammatical mistakes than only to send their wards in coaching classes so far to be called renown, not knowing their exact standard or teaching procedure. They all find school teaching insufficient though they can not discard totally the importance of grammar. The limitations felt by the researcher were-

- The questionnaire prepared for English teacher had bias opinions / views expressed.

- The Diagnostic Test was not all inclusive test of grammar, as it did not include all the prescribed grammatical items in the text. It was impossible.

- The interview schedule was containing only 10 questions, yet many went into opposition regarding the question 'probable causes of poor S.S.C. results. It was a question of great controversy yet all said that English language is absolutely necessary for making career.

- Opinionnaire contained questions about private tuitions, coaching classes and administration of the school. These questions were the great hindrance in their stream of opinion.
3.2 Sources of collecting Data

3.2.1 Sources to collect data

The researcher has presented all the ‘primary data’ here as they are originally collected and not the ‘secondary one’ which is merely a compilation of facts collected by someone else and which have been passed through the statistical process. Prof. D.N. Elhance says ‘on a closer examination it will be found that the distinction between primary data and secondary data in many cases is one of degree only. Data which are secondary in the hands of one may be primary for others. The researcher has adopted survey method for the research at hand. Survey refers to the method of securing information from all or selected number of respondents of the concerned universe i.e. educational institutions. Possible relationship among the existing factors responsible for creating the problem can be studied through surveys while experiment determines and confirms the relations among them.

Usually there are two sources for collecting data

- Field investigation
- Library research

The researcher has efficiently used here both the sources. Various educational periodicals, magazines, commission reports, research volumes, books about teaching English in India by various eminent educationists, have supplied sufficient data to the researcher.

There are two basic procedures for data gathering in the field of investigation 1. Census 2. Sample. In the case of sample only selected units are observed.

The researcher rarely uses the census method. Availability of time and finance decide the selection of the method for choosing sources of data collection. Uncontrolled observation which is also known as direct personal investigation of the grammatical mistakes committed by X class students is the first source of data for the researcher. P.V. Yoging Says 'observation is deliberate study through an eye'. It is the natural effect or picture seen by the researcher in daily class room teaching. It was very useful as it was non participative observation. Thereby the researcher could get a vivid picture of real ways of (committing grammatical mistakes by students of class X)

Details about the device interview-

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The interview process passes through the following stages

- First stage- Thinking
- Developing rapport with the respondent
- Carrying the interview forward
- Recording of the facts
- End of the interview

Merits and Demerits of the device interview are-

**Merits**

- Deep study is possible
- The interviewer can get perfect sample
- It is flexible so the interviewer can reconstruct questions
- Personal information can also be collected
- Proper language can be adopted to avoid misinterpretations
- The interviewer can get supplementary information like respondent’s, personal traits, environment etc.

**Demerits**

- It is expensive
- Bias opinions some times recorded
- It is not possible where the persons are not easily approachable,
- It consumes more time
- Chances of imaginary information are more
- It requires a large force of investigators.

Interview schedule was the most helpful source for data collection. Persons who were supposed to have insight and knowledge about the problem under investigation were interrogated and desired information is collected. A small list of questions (ten questions) was prepared and put to different persons and their answers are recorded. Various commissions and committees appointed by the Govt. use this method for data collection. Interview source is of two kinds. 1. Personal 2. Telephonic. Personal interview may be either structural or non-structural. In structural interview a detailed preplanned schedule is used. The researcher in the present research has used structural interview, as source for data collection. The responses in this interview may be either 'yes' or 'no'. It consists of open ended questions with predetermined order. As the interviewer can control the category of persons who will answer the questions, there arises no difficulty of the missing returns.

The interview schedule was prepared by the researcher thereby near about 10 persons having upper hand in the field of education were interviewed. Telephonic interview was also taken and it also helped in collecting data. But it is rather expensive, bias mixed and not easily approachable. It is time consuming and more often respondent is tempted for giving imaginary and false answer. Renown personalities often think interview as a pompous show of their knowledge and its utility in the research, is thereby, diminishes.
The another source, quite popular is questionnaire. It is considered as ‘heart of the survey method.’ The questionnaire must be properly worked, arranged, codified and duly pre-tested. So the researcher prepared a questionnaire for English teachers on these lines. The researcher took help of English teachers in this matter. They can be served by mail or by enumerator or personally. All these ways of serving questionnaire were adopted by researcher and good responses were collected. It contained nearly 50 questions related to English (third language), yet it was simple to answer. The questions ranged from easy to difficult and no personal or sentiment-provoking questions asked. The clues mainly were ‘yes / no / to some extent’ that made the respondent liberal in answering the questions. Adequate space for answers was provided before each question and guide lines for filling the questionnaire were provided. It was made attractive so that the teachers teaching such difficult subject like English were tempted to accept and get it filled. A questionnaire is the most flexible source of data collection. It is also the most abused of the data gathering devices. A questionnaire consists of a questions printed or typed, in an order, on a form. It is self administered as the respondent answers as per the saying of his / her ‘self.’ Because very often they are not returned to the researcher. Yet, properly constructed and administered, questionnaire serves as the most appropriate and useful data gathering device. The questionnaire may be structured or non structured. The researcher served structured questionnaire as it contained definite, concrete and directed questions. To make the questionnaire purely structured the clues were provided for answer.
The significance of the topic was stated on the covering letter and unique data was collected. Because it was originated from experiences of the actual workers in the field, it was very valuable. It was comprehensive. The researcher had carefully included all the questions, relating to the research problem. They were all objective, with no clues or hints or suggestions as to the responses desired. All questions carried adequate number of alternatives. It was set as its answers can be easily tabulated, summarized and interpreted.

The researcher first submitted the questionnaire for criticism to other members of her class. A vigorous follow-up procedure for collecting the filled questionnaire was adopted. The researcher also showed the questionnaire to those who possessed the experience of constructing questionnaire. Taking into account the respondents' comforts, the questionnaire was prepared in the most scholarly fashion. The opening questions of the questionnaire were such as to arouse the interest of the respondent. For example the questions like 'Is English a difficult subject?' or 'Is English learning necessary for making careers in present situation?' were so simple and clear and intimate that respondent suddenly expressed his opinion by tick marking the alternative- yes / no / to some extent. The questions were multiple choice questions and some were open-ended questions. Even the respondent was allowed to state his additional thoughts as answer to the last question. The response were available in their own language and versions and in written forms. George A. Lindberg
classified questionnaires as (1) Questionnaire of fact, which requires certain information of facts from the respondent without any reference to his opinion or attitude about them and (2) Questionnaire of opinion and attitude in which the informant's opinion, attitude or preference regarding some phenomena is sought. When the respondent is allowed freedom of response his expression may take any unique direction which may not find any uniformity with other responses. This type of responses are difficult to interpret, tabulate and summarize in the research report. The present research has adopted the opinion questionnaire. They were more valid. It gave a biased sample and some unanswered questions themselves put a big question-mark before the researcher. Though the researcher tried to serve the questionnaire personally, the researcher could not note the actual behaviours, gestures, reactions, emphases, assertions and emotions of the respondent while answering the questionnaire. It was also felt by the researcher to cover up some delicate, sensitive, confidential type of research areas and to frame questions on them. e.g. The researcher was unable to include more questions on 'private coaching, tuitions or personal record of the result of English in the service length- they were untouched and not very exclusively dealt with. The questionnaire also permitted the respondent to give contradictory answers sometimes unknowingly. e.g. The teacher was held responsible for bad S.S.C. results and in the answer to the open-end question the respondent stated that 'syllabus-framers' or 'faulty implementation of the methods suggested' are responsible for it. More over, it was also served to the teachers who were science graduates
and were somehow adjusted in the timetable of the school by allotting the periods of English to them. Their answers to the questionnaire made the researcher puzzled while tabulating or interpreting the data. The researcher met some very co-operative and responsible respondents. But it was time consuming and slow. Diagnostic Test administered to the students of class X was the actual and powerful source of data that vividly showed the mistakes that students commit while solving grammatical problems. The data were very reliable as it was served to students unknown and they did not have any idea of the questions. A few minutes before the test was administered, they were given brief information about the test that helped them to be frank, bold while solving the test. They were told that it was not to judge their ranking but to know their draw-backs and it was supplementary to their studies. Therefore many of them were very eager to give the test and found time though they were busy doing preparations for Test Exam. The schools authorities also showed interest to let the researcher administer the test in their schools. It was the most important and reliable data that proved the hypothesis that students commit grammatical mistakes. The test time was of 1 & ½ hrs. and students seemed to be enthusiastic while solving the test for two reasons. 1. It was about their difficult subject 2. They believed that the test would certainly prove a good asset for them, to give them good practice of English (third language).

Diagnosis is essential for right treatment to be given when the disease is widely spread. The disease is still incurable. Proper steps must be taken and right treatment is to be given to this problem. To know the correct nature of
the research problem the data were of great value for the researcher. The marks to each item were given in such a way for proper tabulation and checking. The researcher tried to include the prominent grammatical items in the diagnostic test, though not all. Yet, this source of data proved to be fundamental and of great help for the researcher. Moreover 'Diagnostic tests are aimed at finding out the causes of learning difficulties which may be due to some serious psychological deficiency.' Opinionnaires was the another source to collect data in this research and it sought considerably good response from the respondents. The respondents, enjoying administrative post like Head master, Principal, ex head master or eminent educationists themselves felt the importance of expressing their opinions through opinionnaire served and thereby put their example before the Assit. Teachers teaching English in their institutions to return the questionnaire duly filled promptly. Dr. A.L. Bowley * has very aptly remarked that in collection of statistical data commonsense is the Chief requisite and experience- the chief teacher. The opinionnaire included some questions relating to teaching English in the administrative sphere. The questions put to the head master were like 'Is there Eng. Teacher's Association in your school? How far do you feel need of such Association to be in your school?' ‘Success of Bar-code system’ or ‘conducting S.S.C. examination in school premises.’ The researcher personally served the opinionnaire and showed her urgency and need of the work undertaken.

Reference

Eminent educationist proved their deep interest in the field of education by promptly filling up the opinionnaire and Govt. employee also took interest in duly filling the opinionnaire. Respondents enjoying responsible posts in the education field, found it to be mere susceptible to this burning problem of deteriorating std. of education especially of English and poor S.S.C. results. Their opinions are of high ranking reliability for the researcher as they were bias free and stated with a view to seek attention of all the educational reformers in the society. The opinionnaire though less in number than the questionnaire served for data collection, were more systematic and reliable. “Opinion polling or opinion gauging represent a single question approach. The answers are usually in form of ‘yes’ or ‘no’ An undecided category is often included. Sometimes a large number of response alternatives is provided.” That is what Ann Anastasi has said about opinionnaire: Opinion can be described as what a person says about certain issue. It is not inward feeling like attitude but openly expressed attitude i.e. opinion.

An opinionnaire can be defined as a ‘special form of inquiry used by the educational researcher to collect the opinions of a sample of population on certain facts or factors of the problem under investigation.

The opinionnaire prepared by the researcher was given to some head masters, ex head masters, principals and educationists considering them the sample of the large population of headmasters educationist and principals.

* Methodology of research in education – Kulbir Singh Sidhu- Sterling Publishers Private Limited- New Delhi.
It included three point scale or five point scale like strongly agree-agree-uncertain-disagree-strongly disagree for expressing opinions.

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3.2.2 Procedure to collect data

- The researcher daily observed the mistakes committed by students while solving grammatical items. The notebooks of the students, their oral responses, test papers, unit test papers were the sound proofs that the researcher could have easily.

- The questionnaire was prepared and the researcher got it revised after putting it before the committee of experts for modifications. Then it was served to 100 teachers teaching English (L.L.) to X class, sometimes by personally. Sometimes they were distributed among the English teachers by the head master of the school. The researcher chalked out a very rigorous follow up programme to collect the duly filled questionnaires.

- The researcher was also served to the head master, assistant headmastes personally by the researcher with a request to express their precious opinions just by tick-marking the alternative. They were collected after a period of a week by the researcher personally.

- The researcher had the cyclostyled copies of the diagnostic test. The question paper and answer paper was same. The researcher administered the test personally and collected the solved test papers instantly.
3.3 Sampling

3.3.1 Need of Sampling

In day-to-day life we take decision or form opinion about some product after testing the sample. Especially in grain market a small quantity of grain is sufficient to prove the quality of the grain from the grain sack. The salebility or authenticity of any product in the commodity market depends upon the sample. 'Sampling is the selection of an aggregate of material to represent the whole aggregate', is a long established practice. George Washington in 1771 first attempted to gather agriculture data by sampling. Sampling is the process of obtaining information about an entire population by examining only a part of it. 'Sampling is the selection of certain percentage of group items according to a predetermined plan' (Borgadus), 'A sample, as the name implies is smaller representative of a larger whole.' (George & Hatt). For getting accurate and reliable results the researcher must see that the sample is truly representative of population characteristics without any bias. The selection process or technique is called as sample survey. It is difficult to study whole population or universe. Therefore, carefully a sample is to be picked up carefully. It is impracticable to study a whole population to arrive at generalizations for putting forward valid facts. The process of sampling makes it possible to draw inferences on the basis of careful observation of variables within a relatively small proportion of
population selected for observation and analysis. * Sampling is a process of selecting sample (a few) from the large population. The most important aim of sampling is to obtain maximum information. The phenomena understudy with the minimum sacrifice in terms of money time and energy.

Some important terminology is sampling is given below as to know the need of sampling.

Parameter- it is the population value representing any trait or characteristic of the population as whole.

'Statistics'- A statistic is a sample fact which depends upon the scores of the particular sampling unit comprising a sample.

J.C. Chaturvedi has put forth the theory of sampling.

Theory of Sampling

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The sampling of variables is studied in the context of large and small sample.

By small means any sample that includes 30 or less items whereas large sample is one in which the number of items is more than thirty.

*Yates (in the work cited) P 1 W.G. Cochran
The population is divided into a number of parts called ‘Sample units’/ The sampling method was used in social sciences research in 1754 by A.L. Bowley. Sampling saves a lot of time, energy and money and is really very useful when the units of an area are homogeneous. The units in the present research are the students of class X studying in various school. They have offered English (L.L.) and Marathi is their first language. That way they are homogeneous. So random sampling technique is used in this research. The students of Samarha Vidyalaya, Gaigaon was a sample of the population studying in rural area. The data in this research are unlimited. There are lakhs of students appearing for S.S.C. and studying in X class offering the third language English. Though not cent percent but near about it accuracy is obtained by sampling. The researcher opts for sampling because it is less expensive and results are produced at relatively faster speed. It enables for more accurate measurements. When each unit has in equal probability of being included in the sample, the sample is correct. The researcher does not require absolute accuracy and it is not tenable in the large population. The results of sampling are sufficiently accurate to permit valid generalization. There is a greater scope and flexibility of studies when correct sample is used for studies.

In the present research hundred English teachers form ‘Sample’ of the large population of teachers teaching English as third language. The space and equipment required for this study are very small. Moreover, it enables the researcher to work evenly with limited resources. In manageable sample of
100 English teachers 30 opinion givers and ten interviewers, it was possible for the researcher to establish meaningful rapport. Comparatively the sample being small, it became possible for the researcher to scrutinize the data collected.

3.3.2 Methods of Sampling

Bloomers and Lindquist have classified the sampling methods as following.

- Sample elements are automatically selected.
- Sample elements are arbitrarily selected.

Hence to name these methods we can say.

- The probability sampling
- The judgment sampling.

The probability sampling method is often used in educational and psychological research because it is most easy to be controlled in the development of any theory regarding the magnitudes of sampling errors which may be expected in a given situation. The present research has also followed this method. In this method ‘randomness’ is the fundamental element of control. The concept of randomness is the base of scientific observation and research. It is based upon the idea that while individual events can not be predicated with accuracy, aggregate events can.
Randomization has two important applications in research

- To select groups of individuals for observation that are representative of the population and the researcher generalize about them.
- Equating experimental and control groups in an experiment.

Simple unrestricted random sampling is the simplest sampling design which the present research has adopted. It is not necessarily an identical representation of the population. Their characteristics may differ to some degree, known as sampling error, does not suggest that a mistake has been made in the process.

Various classification of sampling Methods.

- The simple Random sampling
- Systematic sampling
- Stratified sampling
- Purposive sampling
- Quota sampling
- Cluster sampling
- Double sampling
- Judgment sampling
- Sequential sampling
- Incidental sampling
- Convenience sampling
- Self selected sampling

* Sidhu kulbir Singh-Methodology of Research in education Page 260
Let the researcher deal with the simple random sampling used as a method of the present research work. Because sampling is the only method of enquiry when the population is infinite. ‘Every member of the sample is selected from the total population in such a manner that all members of the population, have essentially the same probability of being selected. It is the most popular, convenient and trust worthy method of sampling. In case of diagnostic study, the every student was the representative of the whole population of X class students offering English as the third language. Every English teacher was one of the most suitable representative of all teachers (population) teaching English to X class. Every person answering the opinionnaire is having deep knowledge in the field of education and all are equally interested persons taking interest in grammar teaching. Random sampling method used for this research has got certain advantages.

- It requires only a minimum knowledge of the population in advance. The researcher did not know details about the students or teachers or the eminent personalities in the field of education.
- It is definitely classified.
- As the researcher classified the students like to test their efficiency in grammar.
  - X class students getting special coaching.
  - X class students (studying English as third language) in rural areas.
  - X class students (girls only) urban area
➢ X class students (boys only) urban area
➢ X class students (third lang. English) being taught at renown school with special teaching efforts.
➢ X class students of English medium class.
➢ X class students of Marathi medium class.

- It is free from bias and prejudice, simple to use In short, it is found that there is no best sampling design only it can be said that the sampling method should be in accordance to the objectives of the particular problem to be investigated.

3.3.3 Sampling Procedure

The technique to be used in selecting the items for the sample is called sampling procedure. In fact the technique or procedure stands for the sample design itself. It is to be rightly chosen by the researcher, most suitable for a given sample size and given cost, so that there may be a smaller sampling error. The sampling procedure is having following steps.

- Statement of the objectives of the study.

It helps plan a research project to embrace all. The objectives without losing sight of any one of them. The present research is having definite objective i.e.
To study the grammatical mistakes committed by class X students in English (third language)

- Definition of the population to be sampled.
  - The X class students studying English as third language
  - The teachers teaching English to X class
  - The head masters of secondary school, ex head master and educationists having concern with the X class teaching.

Thus the population is clearly demarked and defined.

- Determining the Data to be collected. It insists the researcher to collect only the relevant data, omitting all the irrelevant one.

The present research collected the following relevant data.

- The diagnostic test solved by the students actually showing the grammatical mistakes committed by them.

- The actual field workers, the intimate experienced day to day spectators English teachers and their opinions collected through questionnaire formed apt relevant data.

- Opinionnaire was served to only head master ex head masters of secondary schools.
- Interview scheduled was also served to particular parents whose words are to appear for the S.S.C. examination in March 2004.

- Methods of Measurement- Appropriate tools and devices used for collecting data are called methods of measurement. Questionnaire for English teachers, teaching English to X class students, diagnostic test administered over the students of X class studying English as third language, interviews and opinionnaire were the other devices used.

- Choice of sampling Unit- For this purpose, the whole population is to be divided into parts known as sampling units which are non-overlapping. Making list of the sampling units forms a major activity at this stage. The present research as divided the population (Students) into following sampling units.
  - Students of X class studying in rural school
  - Students of X class offering English medium
  - Students of X class studying in Govt. School in urban areas (only boys)
  - Students of X class studying in private renown school.
  - Students of X class (girls) studying in private urban schools.
  - Students of so called English medium school- offering English as medium not only for Maths and science but for all subjects.
Selection of field work- It involves getting the returns back from the sampling population, supervision of the work, checking of the quality returns, planning to handle, non responding subjects etc. The researcher had planned the field work very precisely before actually collecting the data. The researcher prepared the list of the schools for getting the sample units, sought permission for administering the Diagnostic Test prepared for X class students, fixed the day, date and time, made the students fully aware of the fact that it was supportive to their study and not waste of time, Moreover it was not going to decide their passing or failure and they are definitely going to be profitted a lot if they solve the test.

Enumerators and the researcher went personally to the teachers teaching English and requested them to get the questionnaire duly filled to be returned on particular date. The researcher again and again made the contacts with the teachers if they had duly answered the questionnaire. It was rather a tedious job. The researcher could sought good co-operation in this respect.

The Diagnostic test item had specific numbers. For interview schedule parents were interviewed parents were classified as

- Educated (Both Mother and father)
- Professional (only mother educated)
- Parents of rural areas
- Parents of urban areas
- Parents of having low economic status
➢ Parents having high economic status
➢ Parents of X class wards, who believed in tuition classes
➢ Ideal teacher award persons.
➢ Working in Govt Sector (administrative post)
➢ Known to be having unique upper hand in teaching English

The persons under above category were interviewed.

▪ Summary and Analysis of Data-Editing work of the collected data, amending the recorded errors, deciding the tabulation procedures, tabulation, graphic interpretation are involved at this step in sampling procedure.

▪ Information, gained for further surveys-Any of the additional information obtained from the sample is recorded for future surveys. The mistakes are recorded so that they can be avoided in future surveys.

The list of the proposed future surveys is added in the appendix.

3.3.4 Sample Size

Sampling is the necessary part of the research as it guides the researcher to draw proper conclusions and makes the research work useful. The sample must be truly representative of the population and it should depict even a small error. It must be according to the availability of funds with the researcher is having and can be controlled in a better way. Good sampling is of proper size that makes the research reliable and good. Accuracy is the major criteria of good research that minimises bias and maximizes reliability of the evidences collected.
"Good research is systematic, logical, empirical and replicable. Replicability is the special criteria that is used for verifying the research results. It gives permanency to the results."*

Size of the sample depends on the nature of the study, size of the population, sampling design, parameters used (population value representing any trait or characteristic of the population as a whole is called parameter), estimated range of unreliability and estimate of dispersion of the characteristic under investigation. There is possibility of suffering from sampling errors if it is not chosen properly. They may be errors of bias, errors of measurement.

When the sampling is random, the random errors can be reduced by increasing the sample size. By increasing the sample size the researcher can include everyone in the population.

In short, the size of sample must neither be too large nor too small. It should be optimum. The size should meet the requirements of efficiency representativeness, flexibility and reliability. The larger the size of population usually bigger sample is needed. The researcher has chosen the sample of 500 students for diagnosing the grammatical mistakes in the present research. Time money and energy possessed by the researcher also affects the size of a sample.

Hundred teachers teaching English were served the questionnaire. 30 was the sample size for opinionnaire of the H.M.s, A.H.M.s, Educationists, and 500 students was a sample for diagnostic tests. 10 persons including parents, ideal teachers, board members was the sample for interview schedule.

3.4 Variables

Variables used in study.

The law of the single variable formulated by J.S. mill is the basic assumption behind the experimentation. The law states that if two situations are similar in every respect, and one element is added to or substracted from situations are one but not the other, any difference that develops is the result of the operation of that element added or substracted. The present research is carried on with this fact.

Variable is the important concept for knowing the research design. A concept which can take on different quantititative values is called a variable. Weight, height, income are all examples of variables. The variables are of two kinds.

- Continuous variable. It assumes any numerical value within a specific range.
- Discrete variable- For it the individual values fall on the scale only with distinct gaps.

In the present research age of the students learning in class X is a continuous variable; but the number of students is non continuous variable. If one variable depends upon the other variable it is called dependent variable and the variable that is antecedent to the dependent variable is termed a san ‘Independent variable.’ In the present research the sample of population is of definite category i.e. ‘Students of X class offering English
In the present research I.Q. (intelligence quotient) is such extra nears variable as students coming from different areas, different socio-economic groups, genetically gained (parents of different categories) and it affects the achievement of students in this research. The pupils selected for administering the diagnostic test is not a perfectly controlled sample is this sense. Socio-economic status of the parents definitely affects the child because higher class parents easily can make all the teaching facilities like workbooks, tuitions, coaching class, guides, available to their words.

In good research, influence of extra nears variables is minimised. To minimise the effect of extra nears variables is called 'control' i.e. restraining experimental conditions.

In the present research, the researcher has selected such schools for study where these factors were not much prominent. The locality of the school was taken into account. Because parents generally prefer to get their wards admitted in the nearest school from their houses. It naturally, to some extent give unifying sample for study.
3.5 Tools of research

3.5.1 Selection

"The unsolved problems of education are so numerous and so varied that it is necessary to simplify a survey of them by using some rather arbitrary classification." Says F.L. Whitney. In the present research, the field of education is secondary education the terminating point of it. i.e. X class. For the concerning research, research tools like study, questionnaire, observation, interview, visits, opinionnaires etc. are used. Through questionnaire, qualitative and quantitative information was collected. It has been obtained with clear instructions and accurate language. The questionnaires, opinionnaires and schedule, they come under the category of inquiry form. When inquiry forms served with purpose of gathering opinions and not the facts, they are called opinionnaire or attitude scales.

The concerning research is empirical one. It is based on the actual experiences felt by the English teachers. It has also got that quality of being replicable i.e. Its results can be verified by replicating the study and thereby building a sound basis for decision making.

Selection of tools was on the basis of the nature of the research. It was done by survey method and covered large population (vast number of students learning in X class and offering English as third language.) Random sampling was taken for drawing inferences. The teachers who are actually
experiencing the phenomenon of committing grammatical mistakes by their students were chosen. They were experienced field workers. So without any hesitation, they could answer the questionnaire. They were to answer objective and clear type of questionnaire.

In the observation method the researcher followed uncontrolled observation. The students as well as the researcher were uninfluenced by the external forces. Prof P.V. Young calls this type of observation as 'unaided type of observation' to get a spontaneous picture of real life and persons. This observation tool is usually used by the researcher as it helps to eliminate subjective bias. The researcher found it very useful because thereby the researcher could get real life picture of students learning in X class. More over, students are unable to give verbal reports of their mistakes. It was uncontrolled observation and the researcher could actually observe the students committing grammatical mistakes in writing. The observer does not plan the study in advance that way it was non-participative. It happens naturally i.e. the students commit mistakes. Most of our life situations are studied in some uncontrolled setting as they occurred, they teach us a lot. Observation is such a natural tool of research that it itself provoke the researcher to study under controlled observation.

Schedule was the another tool selected for the concerning research. The answer are obtained in a face to face contact and so they are more reliable. Questionnaire is usually sent by mail and does not allow face to face contact. Questionnaire can be called one part of the interview. It is more
broad process because many other concerning questions are asked than the pre-planned question list, to establish rapport with the interviewee and provide all complete and usable returns. Yet it is time consuming and expensive. Many a times the interviewee does not find time or avoids expressing facts due to prevailing surroundings.

Yet to get some established fact about the students’ tendency of committing grammatical mistakes, schedule was served to head masters of schools, principals and ex head masters, parents, leaders interested in education field, though it is not very different from questionnaire.

Telephonic interview was also used as a tool. Besides questionnaire and schedule, opinionnaire comprising questions on different aspects of the problem under investigation, was also served. The responses of the opinionnaire are easy to be gauged as they are recorded on three point on five point scale like ‘yes / no / to some extent’ or good, v. good, fine, satisfactory, excellent.

Diagnostic test was the basic tool used for data collection. It was the actual proof of the problem started. The test was administered with a view to collect actual mistakes of grammar committed by the students. It was the most essential tool to formulate the problem under research. It contained twenty grammatical questions based on the syllabus and it was of 100 marks. The marks were allotted to each question as per the weightage in the syllabus and the numbers. It was carefully set as all the questions were well
versed by the students. They often come across such type of grammatical items as were included in the test. Even some proper nouns from the text were included to create intimacy between the students and the test, to inculcate enthusiasm and make them quite ready to solve the test.

Diagnostic test, questionnaire, opinionnaire and schedule, and observation were the tools selected as per the nature of the problem and its urgency. It is a very fundamental problem for all the English teachers and they were included in this work by answering the questionnaire. Leaders working in education field and the head masters were made aware by serving the opinionnaire and schedule.

Jonh Best

'Like the tools in the carpenter's boy, each research tool is an appropriate in a given situation to accomplish a particular purpose each data gathering device has both merits and hazards or limitations.' John Best

Questionnaire-

In general, the word questionnaire refers to a device for securing answer to questions by using a form which the respondent fill himself.

(W.S. Goode & H.K. Hatt)
Interview-

"The interview may be regarded a systematic method by which one person enters more or less imaginatively into the inner life of another who is generally a comparative stranger to him. (P.V. Yong)"

"Interviewing has become of grater importance in contemporary research because of the reassessment of a qualitative interview."

3.5.3 Procedure for preparing tools

Once the tools for investigation were decided, the researcher carefully prepared them so as to get good results from them and prove them to be the most reliable apt and efficient, accurate tools of data collection.

Diagnostic test based on prescribed grammar in the syllabus of class X for English (third lang.) was prepared. It contained twenty questions in all. It was prepared after discussing the actual experiences of the fellow teachers. Experts of the diagnostic test were consulted. It was set and reset after careful study by the honorable guide as well as the other experts. It was based on pure grammar items that were included in their examination paper. Each item was given marks. Some items were having proper nouns, used from the text to make them feel intimacy with the test. That way they become ready to solve it and took deep interest in the test.
The test was administered in the school before a few days of the S.S.C. exam. It helped the researcher in two ways.

- All the portion was covered in the test. Nothing was new to them.
- As they were to appear for the S.S.C. exam. They felt need of solving the test.
- They were in mood to study hard as the board’s exam was near.

The researcher before administering the test made the pupils mentally aware and ready for the test. The test items were of choosing alternative type, matching pairs type, preparing the answer as per given model type nature. A covering page of the test had some friendly warnings for the students so that they might not be afraid of the test. The procedure of solving the item was given on the front page and purpose was made clear by the researcher. The students were well informed before proper time about the test by the school authorities. To find a new teacher (the researcher) in the class was something innovative and centre of attraction for them. They were well prepared and ready, physically and mentally for the test. Before administrating the test, the researcher orally told them how to solve each item. Answers were to be noted in the same question paper. One and half hour duration was fixed for test. After the test, the students were asked about the difficulty level of the test. They told that it was of their daily part of study of English and nothing was new to them. The aim of the test was to diagnose the nature of the disease (committing grammatical problems in English) its seriousness (retardedness) so that proper treatment (Remedial teaching) can be given. It was attained to far extent.
Schedule for interview was prepared to save time actually at the time of the interview. It included only ten questions of very fundamental nature. It was prepared with a view so that the interviewee should not get tired or bored in course of interview. In interview there is often a possibility of lengthy discussions and controversies and it allows face to face contact of the interviewer and the interviewee. The appointment was sought well before the actual interview, yet time-schedule was disturbed due to occasional problems of the interviewee. The gestures, actual facial expressions, way of talking, stressing the syllables or words, also account much in the interview. Everything was noted. Parents seemed to find a platform to express their vows and confessed in the end that they were helpless and did not know any ‘magic wand’ to eliminate grammatical mistakes of their wards. They ultimately, opted to do something for improving English of their ward. Enumerator was used in some interviews but the researcher found that it was important to note the answers personally. The researcher carefully noted the answers. e.g. The eminent educationist Mr. Chittaranjan from Amaravati said that ‘coaching class is the necessary evil and the govt. can not take steps to shut the shops of coaching classes unless and until formal education of English is improved in the school. Faulty syllabus and incompetent teachers are only responsible for sprouting of coaching classes.’
The questionnaire comprising 50 questions about the probable reasons of grammatical mistakes and their nature, was served to the English teachers who are the real spectators of them. It was also framed and reframed after discussion with the fellow-teachers who are the real spectators of them. It was also framed and reframed after discussion with the fellow-teachers as to correct their nature. The questions were not vague, not of personal vindictive nature. They also had alternatives and teachers, in their busy routine, could easily tick mark the answer of their choice. The researcher had a very good response due to some common difficulties experienced by all while teaching English (third lang.) in the class. The covering letter of the questionnaire made sincere request to them for their co-operation, purpose of the researcher behind it and why it was necessary to answer the questions in the questionnaire. The work was carried in the very pleasant light of knowledge of the revered guide of the researcher.

List of the names of the teachers, leaders, educationists, head masters, ex. Head masters, award winner teachers was prepared before the actual work started.

The planned way of doing the research work, utilizing the diagnostic test, questionnaire and opinionnaire properly helped the researcher a lot.
3.5.4 Validity and Reliability of tools

"Systematized efforts to gain new knowledge" can be quoted as one of the definitions of research. The main aim of any research is to find out the truth which is hidden and not yet discovered by any one. To determine the frequency with which something occurs or with which it is associated with something else (As diagnostic research studies in education) and to test a hypothesis of a casual relationship between variables, are the two objectives of the present research. In short, the search for knowledge through objective and systematic method of finding solution to the problem is research. ‘Gathering knowledge for knowledge’s sake’ is the ‘pure’ research or basic research. The present research is of such type. ‘Desire to be of service to society’ is the motivating principle behind the work of the researcher. To solve the research problem the researcher has utilized certain tools like questionnaire, opinionnaire, diagnostic test and schedule for interviews. It sprouted in the mind of the researcher as a plant comes out of a seed underground. The hypothesis, that students learning in std X offering English as third language commit grammatical mistakes was to be examined in the light of data collected by means of research tools by the researcher. To find out the proper solution to the problem, the tools had to be valid and reliable.

* I.V. Redman and A.V.H Mory ‘The Romance of Research 1923 P 10
† R.C. Kothari ‘Research Methodology’ page 2
‡ Pauline V Young ‘Scientific social surveys and research’ p 30.
Suitable tools were utilized for collecting data in the survey method as large population was to be tested. The tools were prepared carefully and right follow up procedure was adopted to collect them.

Diagnostic test was valid and reliable as it was based on grammar only and served to students of X class. The test was administered to point out the nature of mistakes and not to know or test their knowledge. The follow up remedial teaching was possible then to eradicate the mistakes and teach on the proper lines.

Questionnaire was given to teachers teaching English to X class students. More often, senior teachers shoulder the responsibility of teaching to tenth class students and their experienced teaching enhanced the validity of questionnaire responses. They were true to great extent, without any personal bias and answers were only to tick mark the alternative of choice. That way, the questions were objective and no chance of personal bias or prejudices was there to diminish the utility of answers.

Opinionnaire put forward the opinions of eminent persons and responsible administrative persons like Head Masters and ex head masters, principals etc. Undoubtedly, they were valid and reliable because they were actually to make the teachers work efficiently in the school.
Interview schedule was authentic and reliable as the thoughts of the interviewee were recorded in face to face meeting and no chance of bias opinions or invalid statements was possible.

All the tools were actually implemented by the researcher. They are added in the appendix so that any other researcher can go through them. Time factor was properly utilized in the interview as the questions were pre-set. Most important tool was the Diagnostic Test.

The process to prepare a standardized test is a complicated one. Schonell has correctly pointed out the importance of standardization. He says 'Those who use tests should make sure that the standardization of each test i.e. the norm of performance with which one can compare the results of any testees, have been derived form sufficiently large numbers and they are expressed in useful and adequate units.'

The test was constructed by somebody according to certain instructional objectives and also considering the content of that particular subject. Pupils are involved in this process as they have to answer the questions in the test. The examiner is there to assess the answer, decides the answer for assigning marks and to follow the instructions given by the test constructor.

Reference

If the test is standardized the results are same who so ever may be the constructor or examiner.

Therefore any test must have four aspects.

- Reliability
- Validity
- Objectivity
- Practicability

It is the prime duly of every test constructor to be careful enough to prepare most reliable test possible.

‘But mental process are so complicated that it is not always possible to test them directly. No objective device for measurement or originality has yet been invented.’

The test can be reliable when it fulfils its objectives timely and honestly. Reliability can be defined as the degree of consistency between two measurement of the same thing Eble had defined ‘reliability’ in the following words.
'The reliability co-efficient for a set of scores from a group of examinees is the coefficient of correlation between that set of scores and another set of scores on an equivalent test obtained independently from the numbers of the same group.'*

Thus the reliability of measuring instrument refers to accuracy or stability of scores on different occasions or with different set of equivalent measuring instrument.

Garrett † has described following four methods for calculating reliability coefficient of a test.
1. Test retest (repetition)
2. Alternate or parallel form
3. Split half technique
4. Rational equivalence

**Split-half test**

The main advantage of this test is that all data for computing reliability are obtained upon one occasion only and variations of due to two situations are thus eliminated. That's why this method is regarded by many as the best of methods for measuring reliability.
1. K.R. 21 formula
2. Stanley's formula
3. Split half technique

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Validity of Tests

Validity is one of the important qualities of a good test. A test possesses validity to the extent that it measures what it contains to measure and therefore plays vital role in testing procedure. It is an important factor in the construction of a test. * It is essential to compare reality of what it does measure with some ideal conception of what it ought to measure. Validity is a relative term. A test may be valid for a particular objective or in a particular situation and that test can not be generally valid. The difference between validity and reliability is that reliability is determined by making repeated measurements of the same fact and validity is calculated by comparing the data obtained from the instrument with some standard measure.

Reference

* Best T.W. Research in Education, Prentive Hall of India, Pvt. Ltd. New Delhi, 3rd Ed. 1977 Page 188.
Validity is the supplementary factor to reliability and usability. Validity refers to the extent to which the results of an evaluation procedure serve the particular uses, for which they are intended. Basically validity is always concerned with the specific use to be made of the results and with the truthfulness of our proposed interpretations.

Following instructions are to be taken into account while using the term validity in relation to testing and evaluation.

* Validity pertains to the results of a test or evaluation instrument and not to the instrument itself.
* Validity is a matter of degree.
* Validity is always specific to some particular use.

Factors influencing validity are of the same general nature but much more subtle in character.

Unclear directions, too difficult vocabulary or structures, inappropriate level of difficulty of the test item, poorly constructed test items and inappropriate test items for outcome that lower the validity of any test.

Written essays as tests of writing of general proficiency have varying degrees of validity but they are generally of low reliability.

References:

Types of Validity

There are three types of validity. Validity depends on the type of the test and also what it is designed to perform. American Psychological Association in 1966 has attempted to bring a set of common expectations and language to the field of validity.

The psychologists have recommended three types of validity as given below:

1. Contents validity
2. Criterion related validity
3. Construct Validity

References

3.5.5 Pilot Study

To define a research problem is undoubtedly a Herculean task. The problem defining involves the task of laying down boundaries within which a researcher shall study. Otherwise it makes all the research work futile. To make the research a success, pilot study is necessary for the researcher. The research guide or the subject expert can help the researcher lot in this matter.

All available literature concerning the problem at hand was surveyed and examined by the researcher. By this the researcher could find out what data and other material are available for the concerning research. It automatically show the researcher right path to move ahead on the path of the research work confidently as it makes the researcher move forward in the light of proper tools, definite problem, valuable data, proper statistics and correct conclusions to confirm the hypotheses at hand. Pilot study is necessary for any researcher for this purpose. It also helps the researcher to find out certain gaps in the research theories applicable to the problem understudy. It makes the researcher aware of his wrong path though the research has trodden upon it for sometime to some length. But the wrong path can be changed if the researcher comes to know that it is wrong. It helps to move on to the right path and saves time and fruitless efforts of the researcher. “Knowing what data are available often serves to narrow the problem itself as well as the technique that might be used.”

*Robert Ferber and P.J. Verdoorn. “Research Methods in economics and business” Pg. 33, 34
Discussion also helps in providing proper guidelines to the researcher. Since from a long time, the researcher is engaged in teaching English to X class, the problems of teaching grammar and checking grammatical mistakes often led her, into the discussion with the fellow teachers. It is called 'experience survey'. The experienced persons can also enlighten the researcher on different aspects of the research problem, to sharpen his focus of attention on specific points in the research.

The researcher can learn a lot from his day to day experiences, teaching problems and poor performances of the students, valuation etc. Thought provoking articles, periodicals in the newspapers, books about English teaching showed the researcher way to define the problem and undertake the research work.

3.5.6 Procedure to use tools

After preparing the proper diagnostic test, standardizing it by the guide and experienced persons, the test was used as tool for research work. Zerox copies of the diagnostic tests for actually administering the test were collected. Students were asked to fill up the necessary information about them in the given place. e.g. the name, name of the school, day, date, time, age etc. After distributing them among the students they were collected for checking after the purposed time limit. It was the sound proof of the students mistakes related to grammar.
Questionnaire was also served to fifty teachers teaching English in various school where English is taught as third language. The zerox copies of the questionnaire were distributed among the teachers and tediously the researcher collected them again personally or by fellow-teachers. Before serving the questionnaire the teachers were made aware how it would be a valuable help to the research work. The researcher felt the need of personally serving the opinionnaire to Head Masters, ex. Head Masters, eminent personalities in the field of education to get instant response. To the expectation, the opinionnaires were collected speedily after they were duly filled.

The tools used for the present research were the questionnaire for teachers teaching English(L.L.) to X class. Diagnostic Test to find out the mistakes, their nature, opinionnaire to collect valuable opinions of the eminent educationist, principals, head master, assistant head master, ex head master, Board members etc. Interview schedule was prepared and sent to the persons to be interviewed well before to note down their views successively.

The questionnaire has proved a very powerful authentic tool in this research. The questionnaire were served to the English teachers with prior permission of the head master In some schools the head master took the responsibility of distributing the questionnaire among the English teachers in their school. It was a pleasant experience of the researcher that head
master demanded more questionnaires to get them filled by each and every English teacher of the school. They wanted not to spare a single English teacher of X class teaching English in various sections.

The questionnaires were collected by revisiting the schools. The investigator expressed thanks for their sincere co-operation. Even a letter of the thank-giving was sent to all the head master of the schools. After collecting the filled questionnaire, the list of the English teachers was prepared, read carefully and data were tabulized. Question-wise responses, suggestions were noted and classified, percentage wise in graphs, tables, piecharts etc. The alternative ‘Any other’ was described in various ways of the researcher and the responses are included in the interpretation of data collected. The questionnaire included 50 questions regarding every aspect influencing the teaching. The teachers showed considerable eagerness while filling up the questionnaire. They got some questions explained by the investigator.

While adding their valuable suggestions, they wrote extensively and expressed that only a devoted teacher can be a real remedy for eliminating grammatical errors of English. The opinionnaires were served and collected after strainuous follow up programme by the researcher. It contained 15 questions, slightly descriptive but most of them were objective. No wonder, each and every head master gave good co-operation and opined that it is a
very serious problem to search over. After collecting the opinionnaire, the valuable opinions were-tabulized, percentage was calculated and inferences were drawn.

The questions in the interview schedule were pre decided. A full scope for discussion was allowed and the researcher spared a lot of time in discussion while interviewing the persons. The research problem is of day to day experience for everyone in the education field and no wonder all instantly answered the questions in the interview. 10 persons were interviewed for the concerning research. The guardians spoke that their wards don’t understand the language and so don’t know its difficulty level. They are not at all bothered for English and take it easy. They play gamble with their results. They don’t care for passing or failure and for such ‘English is not at all a difficult language. The expert copy users (copybahaddar) as they are called are the real menace to the validity of S.S.C. exam. Generally the guardian is at stake every time for getting their ward through the examination.

The Diagnostic Test containing 20 items was the real authentic tool in the present research. The test was administered to nearly 500 students of various schools and data was collected. Its trial was taken primarily in N.W.W. Swalambi Vidyalaya, Akola before preparing its final draft with the cooperation of the experienced teachers. Pilot testing helped in
eliminating the inappropriate items from the Diagnostic Test prepared by
the researcher. Secondly the miniature classroom experimentation of
grammatical items individually gives stability stabiling to the test items. So
excess alternations, cancellation of modifications in the items are avoided.

Lindquist has mentioned following purposes of pilot testing. *

- To identify weak or defective items to reveal needed improvement.
- To determine the difficulty of each individual item.
- To determine the discriminating power of each individual item to
  constitute an efficient measuring instrument.
- To provide data for the test.
- To provide data to determine appropriate time units.
- To discover weakness in the mechanics of test taking.
- To determine the interco-reations among the items to avoid overlapping
  in item selection.

All the purposes were served in the pilot testing and the researcher reframed
the final diagnostic test using proper items avoiding overlapping among
them.

* Lindquist F.F. (Ed) educational measurement,
American council of Education, Washington D-C 1966 Pg. 250
Ross recommended that normal conditions for the test, generous time allowances, simple scoring procedure and supply of answer keys and scoring rules are necessary.

The prepared diagnostic test was utilised first for pilot testing which is a process of verification and purification of test items for their effectiveness and it is the scientific way to enhance the efficacy of the test. The test was reviewed from the following points of view

- The editorial
- The technical
- The subject matter.

before administering it.

The detailed programme was chalked out before the time selected was such that all the syllabus was completed in each and every school. A prior permission of the concerning head master was sought and the researcher requested the concerning teachers to co-operate. The students were given full idea of work and the purpose of the test was made clear so that healthy and favourable atmosphere is created at the time of the actual administration the test. 'Unclear directions may lower the scores of either the entire group on of certain pupils in varying amounts' *

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* Lindquist E.P. Page 331
The first cover page of the Diagnostic Test carried all the necessary instructions. They were again re-iterated by the researcher before the students to solve their any problem while answering the test. The concerned English teachers were present at the time of administering test. The cyclostyled copies were kept ready in advance for the test. The researcher noted down various matters regarding the administration of the test. The time meant for the test should not be neither too long to produces lethargic and carelessness effects nor it should be too short to obstruct, genuine responses and total manifestations of performance. The time decided for the diagnostic test was 1½ hours.

Bean Kenneth says * about the time limits. That it should be so planned that everyone who works at a minimum acceptable speed can finish all the items And Boss also suggested that in the tryout sufficient time to be allowed so that all or almost all the pupils have time to finish it. ♦

Thomdike R.L. states ‘The time allotment for the test is so set that most of the individuals tested have an opportunity to attempt merely all the test items.’ ♣

The concerning Diagnostic Test was of 1½ hrs duration. It was so adjusted that all the students should get chance to solve all the test items. The physical condition under which the test is taken are also important. The researcher paid special attention to the students had a room to write, adequate listing, pen, pencil and rubber.

♦ Ross G.C. (Revised by Stanley Julion C) Measurement in today’s Prentice Hall Inc. Engle Wood Cliffs (NJ) 963 Pg. 155
3.5.7 Administration of Diagnostic Test

The researcher distributed the cyclostyled copies of the test among the students with the help of the subject teachers in that school were given clear idea of how to solve the test.

The following observations were recorded.

- Students were eager to solve the test as it was something innovative for them. When asked about the test, they answered positively. They were eager to know the results. They found the test very interesting.

- They were motivated for the study of English, especially grammar.

- Their liking for grammar increased.

- They opined that it was a great help for them in their studies for the board’s examination.

- Some were anxious about the correct answers. Some were not serious knowing that it had nothing to do with the school results.

Observations of English teachers during the administration of the test.

- They were all co-operative.

- They liked the test but at the same time expressed their inability to prepare such test in daily routine teaching work. They appreciated the spirit behind the test.
Guessing is the another factor that decreases the reliability of the test Mr. Dandekar W.N. says in this connection. 'But when students get sufficient time to attempt all items, the formula of guessing may not be used.'

Jordon says 'they need not be corrected for chances if there are more than two alternatives.'

The scores were not corrected for guessing because sufficient time was given to pupils and the test had nothing to do with their school achievements.

Spelling, punctuation errors were not accounted for scoring. Marking scheme was according to the Board’s paper.

* Dandekar W.N. Measurement in Education And Psychology school and college Book stall, Kolhapur 1962
- They opined that this type of testing is essential specially for English.

- They said that they are over loaded with work and have no time for construction of such tests. They said that if such ready made tests are supplied to them in printed form they will try with them to improve English language of student.

- Not only the X class students, but students of other classes should also get opportunity to solve such diagnostic tests so that proper measures at proper times for prevention of mistakes can be taken.

- They also opted for readymade remedial test as a follow-up of the Diagnostic test.

**Scoring scheme.**

The researcher has prepared the scoring scheme along with the key for assessment of the test papers. The experts and the English teachers verified the scoring scheme. The simple scoring procedure was adopted.

Michels W.T. & Karnes say 'More the operations involved in scoring, the greater are the chances of error. Hence from a practical stand point weighting can usually be left out of consideration in planning and writing a test.'*

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Need of Item Analysis

Preparing research tools D.Test

Which items are to be selected for the test is very difficult task for the researcher. In finalisation process of test construction item analysis is an important step. Further improvement programme also depends on the errors revealed by the diagnostic items. Item analysis, therefore is necessary for standardization of the test.

The construction of test item is essentially a highly creative task for selecting a content that will be appropriate and likely to yield a items * discriminating.

Item analysis is an integral part of both the reliability and the validity of a test. It is all about the procedure using tools and their administration.

References

Freeman F.S. Psychological Testing 3rd Edition Oxford and IBH Pub Co; Calcutta 1965 Pg 113
3.6 Summary

Every research problem has to undergo methodical and scientific procedure for assessing the exact nature of it with analysis in possible components. This procedure of investigation is commonly known as research design. There are number of research designs prevalent the fundamental as well as applied research but in fact the procedure depends on the nature of topic and the objectives already sketched out. The important fact regarding this is that the research design should be full proof and scientific so that no subjectivity creeps into it and biased results are received.

The researcher has to select the tools properly so that correct and relevant date is collected. The present investigation being the imperical collection of errors committed by students regarding English grammar, the researcher and observation of their work and also used study techniques to know the mistakes committed by X class students in past years. Thereafter the researcher constructed appropriate diagnostic test for grammatical item standardized to test on small group and scientifically enumerated the mistakes with their relative importance. This was supplemented by secondary data collected by questionnaire, opinionnaire, interview and personal conversation with experts. The consultation with experts regarding active plan was fruitful. The sample was representating adequate and useful for the collection of data. All the variables were also tested. The data thus collected were well organized arranged in tabulation form, graphs etc. for further interpretations.

The researcher got the data comprising of various grammatical items, their relative importance and difficulty values for further stastical treatment.