UNIT 4 EVALUATING RESEARCH REPORTS

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Evaluating Research Reports

- Training in Research
- Research for Problem Solving
- Creation of Knowledge

Evaluation Format
- Introduction Chapter
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- Objectives and Hypothesis
- Choice of Research Design
- Choice of Variables
- Research Instruments
- Sample
- Data Collection and Analysis
- Findings and Implication
- Summary and Conclusion
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4.0 INTRODUCTION

Just as a research exercise adopts a scientific process, there are scientific ways of evaluating it. Unless research is scientifically evaluated, the implications cannot be assessed properly. Also, the researcher’s hard work will remain unacknowledged.

The purpose of research can be classified into three categories. These are:

- training in research,
- research for problem solving, and
- research in inquiry of truth or creation of knowledge.

There are definite patterns here. For example, most research projects, especially, projects at the post graduate and doctoral levels are mainly on training in research. The projects that are linked to MA(DE) courses of IGNOU are also intended to train a professional in research in open and distance education. Most of the action research and institutional projects aim at problem solving; the magnitude of the problem can vary from a classroom to the entire educational system. Research that generates knowledge or information is usually characterized by sustained work in a field for years and decades by one person or a group of senior professionals.

It should not be difficult to appreciate that the paradigm for the evaluation of research reports, for three different goals cannot be the same. Though research methodology has to be a common interest in all evaluation, it will be the main focus in the evaluation of a report where training is the goal. When it comes to research for knowledge creation, the emphasis on methodology becomes redundant not because methodological sophistication is not needed, but such researches are results of sustained efforts that are usually done meticulously and published in reputed journals. Whatever maybe the purpose of research, the quality of work needs to be assessed scientifically to understand the real value or worth of the research work. As a researcher in open distance education, you should be able to identify quality research work from others that are poorly planned, conducted and reported. It is also an essential skill of the researcher, as during literature review you should be able to give appropriate weight to the related works based on their quality. It is assumed that in social science research, the methodology is highly significant, and use of right research design lead us to right research results that are reliable, valid and useful. In this unit, we will discuss how to evaluate research reports in open and distance learning.

4.1 OBJECTIVES

After the completion of this Unit you should be able to:

- List the major items for evaluating a research report,
- Explain the scientific criteria for evaluating a research report,
- Critically assess the validity of the mechanism of evaluating research reports, and
- Actually evaluate a research report and submit assessment.
4.2 CRITERIA FOR EVALUATION OF RESEARCH REPORTS

An understanding of the criteria for evaluation of research report is reinforcement of the understanding of the entire process, techniques and tools of research. Evaluation of research reports is carried out for various purposes including award of degree in the case of research leading to a Master degree like MA(DE) or M.Phil/Ph.D. As in any evaluation, we need a set of criteria for evaluating the quality of a research report. It is necessary, because the criteria help us to:

- Judge the adequacy of the research report;
- Guide the researcher to undertake research in a planned manner;
- Identify previous research that may require further validation by using different tool or a different setting; and
- Guide the preparation of a good research report.

In this section, we will discuss various components of a research report and identify the issues that need to be considered while evaluating a research report.

4.2.1 Introductory Chapter: Building the Rationale

As mentioned earlier, the first chapter is the introduction. Introduction is the best section to learn about the researcher, particularly, in case of social and behavioural sciences, to which education and distance education belongs. It is important to understand the researcher’s affiliations and the purpose for which the study was undertaken.

Another important point is to understand whether the researcher has a commitment to a particular point of view. Whenever a researcher tries to support an assumption or a hypothesis from a particular point of view, there is a likelihood of bias. At times, the researcher gets emotionally involved and brings in a bias which is easy to detect. In case you come across a study which clearly states that the study is to prove something, it is clear that the researcher already holds a strong point of view and is only trying to prove himself/herself correct. Much of this can be understood from the emotionally charged language of the investigator in the report.

Another important source of a bias is the researcher’s strong socio-cultural affiliation. For example, in a multi-cultural or a multi-lingual society, his/her strong personal affiliation may affect the process of research.

An easy way for identifying any biases in a study is to look into the researcher’s efforts in collecting research and thematic literature. For example, a particular area of research may have quite a range of references and the studies might contradict one another in terms of findings. Of these, the researcher may choose only such studies that support his or her point of view instead of referring to the contradictions.
Data Analysis

As a reviewer, you may first like to identify if there is any bias; also the extent of the bias and its likely impact on the research process and findings.

The second important point for investigation, particularly in the introductory chapter, is the kinds of argument being built up to justify the relevance of the study.

It is expected that the introductory chapter provides a broad overview which indicates the candidate’s understanding of the broad framework in which the educational system operates and in which the specific area of his or her research is located. Further, from this broad spectrum the researcher should be able to narrow down to the problem under investigation. In this process, a good research report will quote information and data from previous research.

Thus, the entire chapter should be seen from several angles.

- The broad framework of education or related area of education laid out,
- The strength of arguments to justify the study – selection of the problem,
- Skill in narrowing down to the identification of the problem, and
- The presence of biases issues.

Finally, the test of the quality of an introductory chapter is its ability to convince the reader and the reviewer that the problem chosen is

- Relevant,
- Important,
- Timely,
- Researchable, and
- Within the competence of the researcher.

Should these criteria be fulfilled, the chapter on introduction should be considered to have done well.

4.2.2 Review of Literature

Researchers follow two alternative paths so far as review of research literature is concerned. Some researchers review literature as a part of the introductory chapter to build up the required rationale. However, many researchers provide a separate chapter on the review of research literature. Research reports/papers comprise three major elements:

- an introduction justifying the research,
- methodological details and
- findings and their implications.

A competent reviewer should touch upon all the three elements, though most reviewers use only findings. Very few researchers look into findings as well as the research methodology in their reviews. From the angle of findings, major objectives of a review are:
• **To find gaps in research:** For example, if one could conceptually map out a broad area of research and see what researches have already been conducted, the exercise will automatically provide the gaps. Within a broad research area, a number of variables are likely to be impacting a particular phenomenon or process in education. Some variables may have been and some others, may not have been studied. Those variables which have not been studied are the indicators of gaps.

• **To identify the areas of overlap:** There will be areas in which several studies have been conducted in one and the same way. The same variables have been used time and again in the research projects that are more or less similar. These are the cases of overlap. Review of literature will allow us to understand and identify such overlaps.

• **To identify contradictions:** It is quite likely that researches conducted in one and the same area provide contradictory results. For example, there are contradictory results as to what happens to students who participate in Personal Contact Programmes in a distance education programme and who do not. A number of studies indicate that it has no impact on the performance of learners. On the other hand, there are certain studies which indicate that those who participate in PCPs perform better. The review of research literature also brings these contradictions to surface. A researcher may then conclude whether or not research on a specific issue is conclusive.

Now, these are the three components (from the angle of findings) which should help in crystallizing the problem of research.

As a reviewer, you need to check out whether the researcher has indeed identified

- Gaps
- Overlaps and
- Contradictions.

*If so, he/she has done his/her job. However, within that broad framework, you may have to make a qualitative assessment of how effectively the researcher has argued the cases of gaps, overlaps and contradictions.*

The second major purpose of review is to derive guidelines for the methodology of research. From the methodology perspective, the review of research literature should help the researcher to be able to derive implications for

- Sample – sampling technique, sample size, etc.
- Research designs,
- Variables to be studied,
- Scaling technique,
- Research instruments,
- Data collection,
- Statistical or qualitative techniques for data analysis.

Evaluating Research Reports
Now, while you evaluate a report, you may like to check whether the researcher has adequately analyzed and reflected on the previous research studies from the various aspects of research methodology listed above. Further, does he/she indicate his/her decision to choose the research designs, variables, etc. backed up by previous studies. If so, the purpose of review has been well achieved. If not, it is merely a ritual.

There is no one way of reviewing literature. There are at least four basic patterns.

- One and the most elementary pattern is where a researcher presents the findings of a study against the name of the author in one paragraph. The second paragraph refers to another, and third to yet another researcher and so on. In such a case, the researcher does not interlink one study with another.

- The second type of review is when a reviewer refers to a particular set of findings and provides a few references of those who contributed to that particular finding in brackets. In this case, he/she basically clusters studies around a finding (say, relationship between two variables) or around a common mission. Still, the research does not compare any two sets of findings or any two sets of researchers.

- The third pattern is when a reviewer describes a phenomenon investigating various researches as a support.

- The fourth and better approach is when a researcher develops a conceptual framework of his/her research in a particular field. The conceptual framework is built on the theoretical literature and creative argumentation. Within this framework, the researcher maps out the previous research. Fitting it into a conceptual framework allows him/her to compare and contrast issues and findings, identify the gaps, overlaps, contradictions and also derive methodological implications.

Obviously, the four patterns are in a taxonomic structure. As such, you, as an evaluator of a report, will award higher credit to the researcher who uses pattern four and least to the one who resorts to pattern one for reviewing research literature.

The other quality of a good literature review is its exhaustiveness. What is the scope of the review in terms of the period and extent of journals and databases covered? How the literature search was conducted to ensure that the review is comprehensive and not significant work has been missed? The research should mention these in the literature search to explain the inclusion and exclusion criteria and their rationale. While the quality of a literature review can be judged from its presentation and nature of argumentation in a conceptual framework, the earliest and latest references adds to the reputation of the researcher as to have followed rigour in the research work.

So, as an evaluator, you will assess whether any significant related work has been missed by the researcher. If yes, then the review is not of high quality.
Activity I
Examine any research report/dissertation or a thesis available to you. Read the chapter on Review of Literature. Try to evaluate the chapter and write your comments.

4.2.3 Objectives and Hypotheses

All research studies have a section on objectives and hypothesis. It is important to examine whether the researcher has raised very clearly the questions to which he/she is looking for a solution. These questions should be explicit — the researcher should categorically put down the questions on paper. This set of questions can be converted into objectives.

Objectives are the foundations of a research project. Eventually the objectives guide the entire process of research. The major attributes of well written objectives are -

- **Clarity of expression and direction** – The objectives must have been stated clearly enough to indicate what the researcher is trying to investigate. It is equally important to avoid overlaps in stating objectives.
- **Measurability** – The objectives must be stated in a manner that they are measurable; in case of qualitative research it should be possible to at least codify the data and information so that assessment can be made whether the objectives have been achieved or not.
- **Comprehensiveness** – The objectives provide the guiding framework for a research project. Hence, the statement of objectives should be comprehensive enough to cover each and every aspect of the research study. Stating differently, nothing should be outside the purview of the stated objectives.
- **Judiciousness** – Another important attribute is the judiciousness in and justifiability of choosing and stating objectives. For example, many young scholars, in their post graduate dissertations and doctoral theses mention “recommending future research” as one of the objectives. In all fairness, this is not feasible. Similarly, in a short time-bound project, a research objective that actually calls for sustained and long-term study becomes less feasible.

Thus, an evaluator, while evaluating the research objectives needs to examine clarity of expression, measurability, and comprehensiveness of the objectives and judiciousness in choosing and stating them.

Hypotheses, as you have read, “is a statement of causal or non-causal relationship of two or more variables under study.” The proposition of a hypothesis is derived from theoretical constructs, previous research and logical analysis. More often than not, the researcher mentions the literature that leads to the formulation of hypothesis. **One important task of the evaluator is to check whether the researcher has provided sound back-up from**
the previous research and findings and important theoretical analyses to justify his/her formulation of hypotheses.

Hypotheses are stated either in null or directional form. Null form, does not presuppose any specific relationship, e.g. ‘there will be no relationship between academic achievement and intelligence of the students’. On the contrary, directional hypotheses presuppose relationship, e.g. ‘distance learners who study self-instructional material will perform better than those who study through conventional textual material’. When a null hypothesis is tested, it may point to a positive, neutral or negative relationship that can be used to derive conclusion. When a directional hypothesis is tested, it produces one of the two results – true or false. If it is false, it does not automatically show that the reverse is true.

For the purpose of evaluation, it is important to examine whether

- The choice of hypotheses – null or directional, was logical and whether the researcher has adequately argued out his/her case;
- The hypotheses are testable;
- The hypotheses are stated clearly indicating one to one relationship between two (or more) variables; and
- In case of a multi-variate situation, the relationship of the cluster of independent variables vis-à-vis the criterion variable is well defined.

4.2.4 Choice of Research Design

There are several research methods and designs that can be chosen by a researcher to achieve the objectives and test the hypotheses. While evaluating a research report, it is important to assess whether the chosen design is competent to respond to the research objectives and questions laid down. For example, if the objective is to test the impact of a broad treatment to a group of learners, it has to follow an experimental design. Similarly, if the objective is to assess the status of certain psycho-social variables in a given sample of population, it would require survey methodology. Within a survey, if the purpose is simply to describe their status and not to compare them with any standard norm or not even develop a norm, the design can be descriptive.

Hence, in evaluating research, it is necessary to check the choice of appropriate research design against the objectives. Another means of evaluating the applicability and befittingness of the research design is to check it against the hypothesis. If the hypothesis to be tested, is formulated in terms of relationships, the study has to adopt a methodology, e.g. survey, by which relationships can be tested. Compared to it, if the hypothesis is to test the performance of two different groups against a particular type of treatment, the research design has to provide for that opportunity by adopting an experimental design. Depending on the nature of the groups, the treatment, the size of the sample and also the nature of that experiment, one would adopt a pre-experimental, quasi experimental or true experimental design, or even post-experimental research.
Thus an evaluator of a research report needs to examine the appropriateness of the choice of research design vis-à-vis the research objectives. The details of the design, e.g. type of experimental design etc., too have to be evaluated. Equally important is the argument put forward by the researcher in deciding the research design.

### 4.2.5 Choice of Variables

Choice of variables is an important step in a research project. There can be at least three sets of variables, namely, independent, dependent and intervening variables. There are also other ways of classifying variables like socio-economic, demographic, psychological, organizational, etc. The later classification is relevant with regard to basic content of research whereas the former is directly linked to research methodology – how you deal with them while analyzing research data.

Here, we shall concentrate on the first set. The important point to evaluate in the choice of variables is the formulation of the dependent or the criteria variables. This is particularly important in experimental research where the impact of other variables on the criterion variable is assessed.

In order that the research makes a meaningful contribution, it is important to choose the independent variables as meticulously as possible. The choice of independent variables depends upon more than one consideration. One of the considerations is the existing knowledge on the basis of previous research which shows that certain types of variables are indeed related and predict the variation of the criterion variable. The second important consideration is the assumption of the researcher – that there are particular sets of variables that are likely to be related to the dependent variables.

The third set of variables is the intervening variables. These are often ignored in research, although these actually intervene and influence the relationship between the independent and the criterion variables. On the basis of the research literature, the researcher is expected to identify such variables that are likely to influence the relationship under test.

Besides the identification and classification of the variables, it is important that variables are measurable. Further, all variables may not have standard definitions. In such a case, it is expected that the researcher shall provide operational definitions and also indications of their measurability.

Hence, an important consideration in evaluation is how meticulously the variables have been identified and classified under the three categories mentioned above. The second important consideration in this case is whether the researcher has provided operational definitions of at least such variables as do not have a standard meaning in the literature. The third important consideration is whether there are clear indications of the measurability of variables.
Check your Progress 1

Give brief answers to the following questions.
A. List the major attributes of well written objectives in a research report.
B. List the points which an evaluator should keep in mind while evaluating the variables used in a research exercise.

Notes: (a) Space is given below for your answers.
(b) Compare your answer with the one given at the end of the Unit.

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4.2.6 Research Instrumentation

Several types of research instruments have been discussed in the blocks and units of this course. These are psychological tests, achievement tests, questionnaires, opinionnaires, information blanks, inventories, interview schedules, etc. For the purpose of evaluating a research report, the important consideration is whether the instrument chosen or developed is appropriate for measuring the variables or not.
It is important to note that a research instrument is for the measurement of variables. Every variable has certain attributes of its own, amenable to measurement by different types of scaling, namely, nominal, ordinal, ratio and interval. Similarly, there are variables which are amenable only to rigorous standardized tests, like those of intelligence, reasoning ability, etc. There are others which can be measured through inventories or questionnaires. Then there are variables which necessitate the use of interviews with probing questions to be able to go into the details of a process. The common mistake in this area is the use of incompatible instruments vis-à-vis the variables being measured; for example, researchers may use a questionnaire to measure attitude. Sometimes researchers use questionnaires for conducting interviews as if a questionnaire is no different from an interview schedule. More often than not, interviewing is called for when a lead question leads to ‘Yes’ and/or ‘If No’ kind of situation.

The points to be borne in mind while evaluating research instruments are the following:

1. Whether the researcher has chosen an instrument that can actually measure the variables.

2. Whether the research instrument has been picked up from an existing stock or has been constructed by the researcher. In case of the former, whether the researcher has checked its validity, and reliability and the sample on which the original study was conducted. Whether the standardization on the original sample is valid for the sample on which the researcher has used the instrument and drawn inferences. In case the researcher has developed the instrument on his/her own, has care been taken to check the attributes of the tool, a dependable research instrument, be it a questionnaire, inventory or an interview schedule. As an evaluator, you may like to check the reliability and validity of the instruments used to ascertain the appropriateness of the instruments.

3. Whether the researcher has tested the feasibility of the use of instrument. For example, a questionnaire is not a feasible instrument for the illiterates unless the researcher himself/herself records the responses. Similarly, a research instrument that requires considerable time to respond is unlikely to be responded by those who run short of time e.g. executives.

4. Besides these three criteria, research instruments can be examined from the angle of language, communication, provision of recording response by the respondents, etc.

4.2.7 Sample

There are two major issues that need to be considered with respect to samples, namely,

- Sample Size
- Sampling Technique and Type of the Sample.

The size of the sample depends on the nature of objectives of a research project and the research design. For example, in case of rigorous experimentation, it is not only difficult to
Data Analysis

handle large samples, but also not necessary. Similarly, for surveys and such other status studies, samples have to be large. The main consideration here is that there has to be an optimum size of the sample beyond which it is waste of research resources. For this purpose use of sample size determination formulae and standard tables help the researchers to be objective.

As an evaluator what is to be considered is: whether the sample size is large enough for the study and the sample size has been determined scientifically?

Another important aspect is the technique of choosing a sample. There are several techniques of choosing a sample, namely, randomization, stratified randomization, clustering, etc. In purposes of exploring a new phenomenon primarily for understanding and learning, one may use purposive sampling. Since it is a purposive sample, it is obviously not randomized. It does not have the value of generalization but can be used for generating the first set of information. The important point is to check whether there is a case for using purposive sampling. A random sample is often quoted as the ideal sample; it is necessary for generalization and the creation of new knowledge. In practical terms, strict randomization is more often used in statistical quality control in production industry. However, a modified version like stratified randomization is used in educational and social research. It provides a sound basis for generalization. Many a times, it has been observed that researchers do not use randomization, but state that random sampling method has been used. For example, distribution of a questionnaire in a gathering of 500 people and getting a return of 350 responses is not a random sampling.

The important point to check here is whether the researcher has identified the right and relevant criteria for stratification and sub-stratification of the population; and then developed a sampling frame to choose a stratified random sample, using appropriate randomization.

It is also important to look into the argument that is put forward by the researcher justifying the method of selection of the sample. There are studies where the researcher started with a particular sample size, but ended up with a considerably reduced one. In such events, although the sampling technique may have been technically correct, the researcher miscalculated the feasibility of involving the sample in the research. As a result, beginning with a stratified large whole sample, the researcher ends up with a small sample by default or with a residual sample. This may require a change in the statistical analysis of the data.

An evaluator needs to carefully evaluate the explanation provided by the researcher and the way he/she proposes to cope with it.

4.2.8 Data Collection and Analysis

Along with the quality of research instruments and the sampling technique, the quality of the outcome of research also depends on the quality of data itself. In turn, the quality of data is determined by the procedure of data collection. The indication of the quality of data lies
in the dependability of the information collected from the sample. A normally observed problem associated with data collection is on the spot collection that provides a definite return of responses, but not necessarily quality responses because the respondent is likely to respond mechanically. When the researcher sends the instrument by mail or leaves it to the respondent to respond, there is a large amount of loss because only a small percentage of the prospective respondents respond. The data thus generated are not of the pre-determined sample but of the positive type of respondents in the sample, that does not include data from the ‘non-respondents’.

Generally speaking, in a research exercise that requires primary data, it is better to collect the data personally. In case of secondary data, it is important to check the sources of data and their trustworthiness.

The points to check here are whether the researcher has categorically recorded the details of data collection:

- research instruments administered personally or by a representative or by mail,
- sources and authenticity of secondary data, and
- the kind of problems that the data might have in terms of quality.

Data analysis can be either qualitative or quantitative. Although qualitative research and qualitative analyses are gaining momentum, a large majority of research depends on quantitative methods and statistical procedures. A major point in evaluating research is to check whether the researcher has chosen qualitative methods where the data are qualitative and objectives and hypothesis do not demand a quantitative analysis. Similarly, whether the researcher has chosen a quantitative technique where a qualitative answer is not required.

Within quantitative research, statistics can be parametric or non-parametric. The point for evaluation is whether the researcher has justified the choice of the broad option between parametric and non-parametric tests. The size of the sample is another determinant in choosing the statistical tests as a small sample often warrants non-parametric tests. Within the parametric and nonparametric tests there is a wide range of options. Whether the researcher has chosen the right test is another important point to consider. For example, within the application of simple central tendencies, it has to be seen whether the researcher has chosen mean where it is indeed the appropriate application or whether he/she has mechanically used a mean where a median or a mode would have been the more appropriate choice. If the choice of statistics has been correct, the next point to look into is the correctness of calculations. Of course, with the increasing use of computer, this problem has reduced. Given the development of the use of computers and availability of ready-made statistical computing software and other packages, it is important to examine whether the researcher has used a computer for data analysis. If not, the evaluator may have to calculate the values himself or herself.
Check your Progress 2

List the points for evaluating the chapter on Data Collection and Analysis.

Notes: (a) Space is given below for writing your answer.
        (b) Compare your answer with the one given at the end of the Unit.

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4.2.9 Findings and Implications

Having dealt with the issues pertaining to introduction, review of related literature, methodology, we now concentrate on results.

The final outcome and hence, the value of a research project lies in its findings, i.e., results and their interpretation. The findings are presented not only in the descriptive form but also in the form of tables and graphic representations. The evaluator needs to examine whether a table or a graph has been used wherever it was required. Similarly, if a table or a graphical presentation has been provided, it has to be seen whether it has been given a title and followed up with an explanation. The second important point to check is whether the researcher has related the graphic presentation with the corresponding tabular presentation and ensured that there is no contradiction between the two.

Along with the results, it is necessary to provide an interpretation and implications of the results. These are usually drawn for the purpose of policy formulation, planning and execution in education. In order to do so, a researcher often refers to previous studies to derive support for his or her findings. He/she is also expected to reflect previous studies that contradict his/her findings. The important issue of evaluation here is to critically examine the way a researcher interprets the findings:

- Whether the interpretation has been related to the introductory chapter where the researcher built up the rationale for his/her research.
- Whether the argument built up in each chapter is adequately reflected in the interpretation of the results.
In other words, this is where an evaluator examines the analytical skill of a researcher, the skill of extrapolation, the skill of observing and explaining relationships between two or more variables, etc.

4.2.10 Summary and Conclusions

This is a common chapter in all research studies. It provides a quick glimpse of the entire research project. Brevity with comprehensiveness is the rule of the game for this chapter. An evaluator often examines within the small space of a summary how a researcher has built the rationale, how he/she has documented the objectives, hypotheses, research methodology and findings.

**Activity II**

Read the chapter on summary and conclusion of any research report. List your comments and check with the points given in the unit.

4.2.11 Referencing

Referencing is an important skill. Most research students make mistakes as they lack both the skill and the seriousness of purpose vis-à-vis referencing. In fact, many evaluators go straight into the section on references. It is easy to check because there are some definite internationally recognized forms. One comes across many research theses where a researcher mentions only the authors and the names of the books. He/she skips the place, publisher and even the year of publication, little realizing that an evaluator or a future reader of the thesis would not be able to refer to any book or study without the details about the publisher and the year of publication. At the very elementary level, it is necessary to check whether all the information has been provided. It has also to be checked whether the information provided is in one of the standard forms. It has to be seen if the references are indexed, in case they are not numbered in the text. Similarly, if the references are numbered in the text, it has to be seen whether the references appear serially according to their appearance in the text. As a matter of practice, as an evaluator goes through the text of the report and comes across a reference in the text, he/she should immediately check whether there is a corresponding entry in the reference. This helps him/her to identify the missing references and common mistakes in the spellings of names and years of publications. There is a difference between a bibliography and references. Research reports require references and not a bibliography. Many students commit the mistake of providing references under the heading of bibliography. In text references not listed at the end of the chapter or thesis is a strong negative point of a quality research work.
4.2.12  Annexures

Last but not the least, an important component of a research report is annexures. Annexures usually contain the research instruments, sampling frame, instructional material that might have been used for experimentation, etc. Annexures are also serialized. The main purpose of the annexures is that an evaluator can check the actual quality of the research instrument and material that have been used by the researcher. Annexures need to be fully documented and also serialized as indicated in the content of the research report. Thus the check points are the comprehensiveness and serialization of the annexures.

Check your Progress 3

State the points on which the Annexures of a research report are evaluated.

Notes: (a) Space is given below for your answer
(b) Compare your answer with the one given at the end of the Unit.

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4.2.13  General Indicators

Besides the important points we discussed in the preceding pages, there are issues that need to be considered such as language, typographical errors, presentation, etc. Some of these issues are:

• Language and expression including correctness of syntax, spelling, etc.
• Typing, word processing and printing of the report – readability including margins, line spacing, type font and size, placement of tables, diagrams, illustrations and graphs.
• Binding and overall get up.
4.3 FORMAT FOR EVALUATION OF RESEARCH REPORTS

In this section, we shall present a format for evaluation of research report to help you assess the quality of the report using a set of criterion, and calculate score as ‘quality index’. Though this is a more quantitative way of evaluating research reports, we also recommend you to consider the issues discussed in the preceding section, and write a qualitative report. The qualitative description and the statistical ‘quality index’ should match.

In order to use the format, we suggest you to go through each criterion, and give relevant score in the box. If a particular criterion is not applicable for a research report, you must mention the same. While calculating the maximum score for evaluation, you must subtract the scores for the criteria that are not applicable for the specific research report. Add the total scores given by you for the different criteria, and than use the following formula for calculating “Quality Index”.

Research Report Quality Index= (Score obtained) x 100/ Maximum Actual Score

Suppose all the criteria were included in evaluating a research report, then the Maximum Actual Score would be 65. If the report gets a grand total score of 48, then the Research Report Quality Index score is 73.84.

If the Maximum Actual Score taken into consideration is 55, and the grand total score in all the categories is 48, the Research Report Quality Index score is 87.27.

4.4 LET US SUM UP

In the last few pages, we have dealt with various issues related to the evaluation of research reports and have given some vital practical methods of evaluating them. We classified research reports into three categories – research for training, research for problem solving and research for knowledge generation. We have also mentioned that there are no water-tight compartments these categories of research. Variation is on emphasis, e.g. in the case of research for training, emphasis is laid on proper use and application of research methodology. It is also anticipated that as a researcher moves from the maiden research effort to the second, third and so on, his/her methodological skills will improve. But for any research, importance of methodology cannot be underestimated. We conclude this Unit with a Research Report Evaluation Proforma which by and large covers all the major points enumerated in the text of this Unit.
# Research Report Evaluation Proforma

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Score Rule (points)</th>
<th>Not Applicable (NA)</th>
<th>Score</th>
</tr>
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<tbody>
<tr>
<td><strong>1 Introduction</strong></td>
<td>Max Score= 6</td>
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</tr>
<tr>
<td>1.1 Is the problem clearly stated?</td>
<td>Yes (1)/ No (0)</td>
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</tr>
<tr>
<td>1.2 Is the problem selected appropriate?</td>
<td>Yes (1)/ No (0)</td>
<td></td>
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</tr>
<tr>
<td>1.3 Is the problem relevant?</td>
<td>Yes (1)/ No (0)</td>
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<td></td>
</tr>
<tr>
<td>1.4 Is the problem important?</td>
<td>Yes (1)/ No (0)</td>
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<tr>
<td>1.5 Is the problem researchable?</td>
<td>Yes (1)/ No (0)</td>
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<tr>
<td>1.6 Are the related areas of the problem discussed satisfactorily?</td>
<td>Yes (1)/ No (0)</td>
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<tr>
<td><strong>2 Review of Literature</strong></td>
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<tr>
<td>2.1 Does the review identify gaps?</td>
<td>Yes (1)/ No (0)</td>
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<tr>
<td>2.2 Does the review identify overlaps?</td>
<td>Yes (1)/ No (0)</td>
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<tr>
<td>2.3 Does the review identify contradictions?</td>
<td>Yes (1)/ No (0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4 Is the coverage of the review adequate?</td>
<td>Yes (1)/ No (0)</td>
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<td></td>
</tr>
<tr>
<td>2.5 Is the review up-to-date?</td>
<td>Yes (1)/ No (0)</td>
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<td></td>
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<tr>
<td>2.6 What is the level of the review?</td>
<td>Chronological (1)/ Findings oriented (2)/ Phenomenon-based (3)/ Conceptual Framework (4)</td>
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<td><strong>Sub-Total</strong></td>
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<tr>
<td><strong>3 Objectives and Hypotheses</strong></td>
<td>Max Score= 12</td>
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<tr>
<td>3.1 Are the objectives stated clearly?</td>
<td>All (2)/ Some (1)/ None (0)</td>
<td></td>
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<tr>
<td>3.2 Are the objectives measurable?</td>
<td>All (2)/ Some (1)/ None (0)</td>
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<tr>
<td>3.3 Are the objectives comprehensive?</td>
<td>All (2)/ Some (1)/ None (0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.4 Are the hypotheses measurable?</td>
<td>All (2)/ Some (1)/ None (0)</td>
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<td></td>
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<tr>
<td>3.5 Are the hypotheses clearly stated?</td>
<td>All (2)/ Some (1)/ None (0)</td>
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<tr>
<td>3.6 Are the hypotheses logical?</td>
<td>All (2)/ Some (1)/ None (0)</td>
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<td><strong>Sub-Total</strong></td>
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Comments:
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<th>Research Design</th>
<th>Max Score= 3</th>
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<tr>
<td>4.1</td>
<td>Does the choice of research design vis-à-vis the research objectives appropriate?</td>
<td>Yes (1)/ No (0)</td>
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<tr>
<td>4.2</td>
<td>Are the reasons for the choice of the design given?</td>
<td>Yes (1)/ No (0)</td>
</tr>
<tr>
<td>4.3</td>
<td>Has the methodology been explained in an understandable way to help replication of the work?</td>
<td>Yes (1)/ No (0)</td>
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<td><strong>Sub-Total</strong></td>
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<tr>
<td>5.1</td>
<td>Are the variables rightly identified?</td>
<td>Yes (1)/ No (0)</td>
</tr>
<tr>
<td>5.2</td>
<td>Are the variables operationally defined?</td>
<td>Yes (1)/ No (0)</td>
</tr>
<tr>
<td>5.3</td>
<td>Are the variables measurable?</td>
<td>Yes (1)/ No (0)</td>
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<th>Research Instruments</th>
<th>Max Score= 5</th>
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<tr>
<td>6.1</td>
<td>Does the instrument selected measure the variables accurately?</td>
<td>Yes (1)/ No (0)</td>
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<tr>
<td>6.2</td>
<td>Has the feasibility of the instrument been tested?</td>
<td>Yes (1)/ No (0)</td>
</tr>
<tr>
<td>6.3</td>
<td>Is the language used in the research instruments comprehensible?</td>
<td>Yes (1)/ No (0)</td>
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<tr>
<td>6.4</td>
<td>Are the instruments reliable?</td>
<td>Yes (1)/ No (0)</td>
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<tr>
<td>6.5</td>
<td>Are the instruments valid?</td>
<td>Yes (1)/ No (0)</td>
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<td><strong>Sub-Total</strong></td>
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<th>Sample</th>
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<tr>
<td>7.1</td>
<td>Is the size of the sample appropriate?</td>
<td>Yes (1)/ No (0)</td>
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<tr>
<td>7.2</td>
<td>Is the technique of choosing the sample appropriate?</td>
<td>Yes (1)/ No (0)</td>
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<tr>
<td>7.3</td>
<td>Is the sample representative of the population?</td>
<td>Yes (1)/ No (0)</td>
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Comments:
## Data Analysis

### Data Collection and Analysis (Max Score= 4)

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<td>Has the researcher collected the primary data personally?</td>
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<tr>
<td>Are the secondary data sources authentic and reliable?</td>
<td></td>
</tr>
<tr>
<td>Are the statistical tests used appropriate?</td>
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<tr>
<td>Is the quantitative/qualitative data analysis effective?</td>
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**Sub-Total**

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**Comments:**

### Findings and Implications (Max Score= 5)

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<td>Are the findings logically presented?</td>
<td></td>
</tr>
<tr>
<td>Do the tables/graphs have appropriate titles?</td>
<td></td>
</tr>
<tr>
<td>Are the tables/graphs explained in the text?</td>
<td></td>
</tr>
<tr>
<td>Are the findings related to the discussion in the introductory chapter?</td>
<td></td>
</tr>
<tr>
<td>Are the hypotheses/objectives of the research addressed adequately?</td>
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**Sub-Total**

<table>
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<th>Actual Max=</th>
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**Comments:**

### Summary and Conclusions (Max Score= 3)

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<td>Is the summary presented comprehensive?</td>
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<tr>
<td>Are the conclusions supported by data?</td>
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<tr>
<td>Are there recommendations for future research?</td>
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**Sub-Total**

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### Referencing (Max Score= 5)

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<td>Are the in-test references available at the end?</td>
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<tr>
<td>Are the references accurately presented?</td>
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<td>Are the references show uniformity?</td>
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**Sub-Total**

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**Comments:**
### 12. Annexures

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<th>Max Score= 3</th>
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<tr>
<td>12.1</td>
<td>Are the annexures comprehensive?</td>
<td>Yes (1)/ No (0)</td>
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<tr>
<td>12.2</td>
<td>Are the annexures presented systematically?</td>
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<tr>
<td>12.3</td>
<td>Do the annexures give original data?</td>
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**Sub-Total**  
Actual Max=  

**Comments:**

### 13. General Indicators

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<tbody>
<tr>
<td>13.1</td>
<td>Is the research report without major typing mistakes?</td>
<td>Yes (1)/ No (0)</td>
</tr>
<tr>
<td>13.2</td>
<td>Is the research report presented well (margin, typesetting, tables, etc)?</td>
<td>Yes (1)/ No (0)</td>
</tr>
<tr>
<td>13.3</td>
<td>Is the binding of the research report proper?</td>
<td>Yes (1)/ No (0)</td>
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<tr>
<td>13.4</td>
<td>Is the title description accurate and of a reasonable length?</td>
<td>Yes (1)/ No (0)</td>
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**Sub-Total**  
Actual Max=  

**Comments:**

**Grand Total**  
Grand Actual Max=  

**General Comments:**

---

### 4.5 CHECK YOUR PROGRESS: THE KEY

1. a. Clarity of expression and direction  
   - Measurability  
   - Comprehensiveness  
   - Judiciousness  

   b. The points which a researcher should keep in mind while evaluating the variables in a research report are:  
      - Formulation of variables  
      - Classification of variables  
      - Whether the variables are operationally defined  
      - Measurability of variables  

2. a) Administration of Research Instruments  
   b) Authenticity of the Data  
   c) Kinds of Test used  

3. a) Whether the Annexures are in proper Serial Order  
   b) Comprehensiveness of Annexures
Dear Student,

While studying the units of this block, you may have found certain portions of the text difficult to comprehend. We wish to know your difficulties and suggestions, in order to improve the course. Therefore, we request you to fill out and send us the following questionnaire, which pertains to this block. If you find the space provided insufficient, kindly use a separate sheet.

**Questionnaire**

Enrolment No. [ ] [ ] [ ] [ ] [ ]

1. How many hours did you need for studying the units?

<table>
<thead>
<tr>
<th>Unit No.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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2. Please give your reactions to the following items based on your reading of the block:

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<th>Items</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Poor</th>
<th>Give specific examples, if poor</th>
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<tbody>
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<tr>
<td>Language and Style</td>
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<tr>
<td>Illustrations Used (diagrams, tables, etc.)</td>
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<td>Check your Progress Questions</td>
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<tr>
<td>Feedback to CYP Questions</td>
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</tbody>
</table>

3. Any other comments:

Mail to:  
Course Coordinator (MDE-415)  
STRIDE, IGNOU, Maidan Garhi  
New Delhi - 110068, India