Exploring Survey Data on Health Care
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Lecture - 11
Pre-testing of Sample

Welcome friends to this NPTEL module on handling Survey Data on Health Care. We are on the 3rd week and starting with understanding the sampling data, testing the sampling data, and how to test the sample data. The first lecture we have kept is Pre-testing of Samples.

So far in the previous lectures even in the first two modules, I have guided you about the health care database. I have guided you about certain principles of research, research problems, sampling design, understanding sample size and schedules, questionnaires, etc.

Now, onwards we will give you a certain direction on testing the sample data. So, the first one we have kept is the pre-testing of sample data. My name is Dr. Pratap Mohanty, I am attached to the Department of Humanities and Social Sciences as a faculty, I have been delivering these modules for over 6 years though my experience in teaching and research is of 14 years. So, without further background discussion let us move on and understand the pre-testing of the sample. Let me just point out what we have written here.

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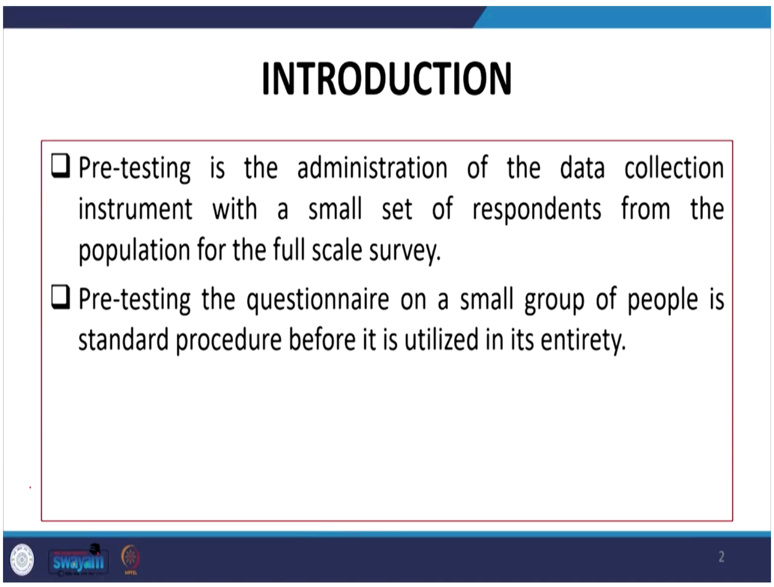

The first one is pre-testing is the administration of the data collection instrument with a small set of respondents from the population for the full-scale survey. So, basically, as we all know that pre-testing is important because we collect a small set of information from the full-scale survey. So, those small-scale set of respondents should have been tested and that will give full proof to our full-scale survey.

Pre-testing the questionnaire on a small group of people is standard procedure before it is utilized in its entirety. So, I think I have already told you about the pre-testing of the questionnaire in the previous week. The pre-pilot survey helps in understanding the standard procedures of the survey.

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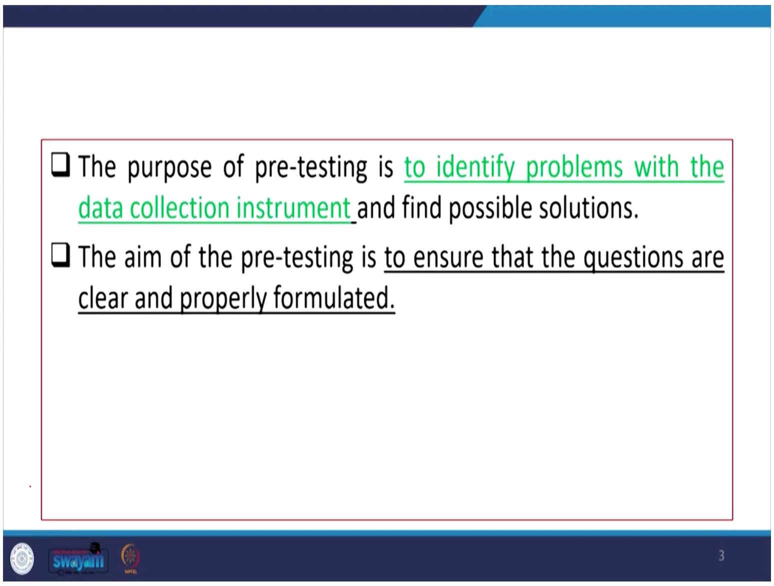

The purpose of pre-testing is to identify problems with the data collection instrument and find possible solutions. So, this pre-testing is going to give us a direction about the problems of the research and some instruments for the data collection.

The aim of the pretesting is to ensure that the questions are clear and properly planned. So, that is another important aspect. A pre-test is a critical next step in the research process. Once you have a finished draft of your survey, the pre-test is usually carried out in a similar population, in an area similar to the study area.

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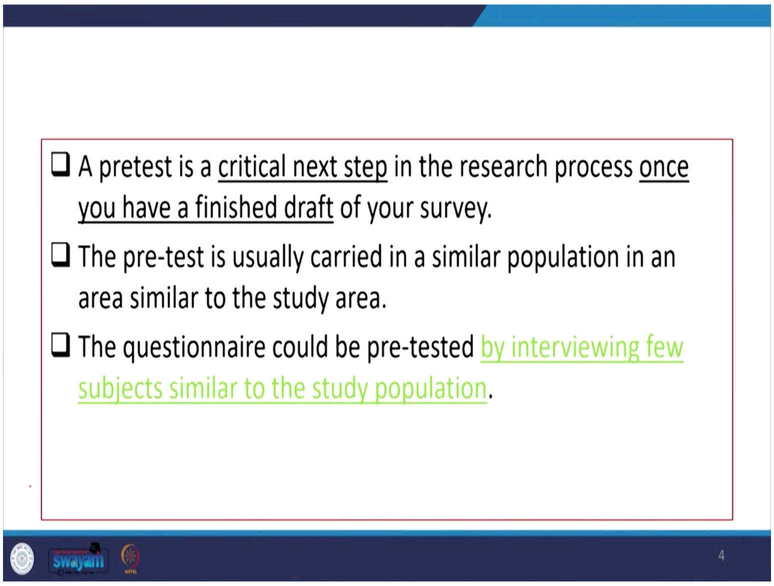

So, a pretest is like a small pilot study, and it should be carried out under the same set of conditions, the same set of population, and in the same area; otherwise, it will not going to give you correct direction for the full survey.

The questionnaire could be pre-tested by interviewing and viewing a few subjects similar to the study population. So, maybe 10 percent of the total questions, even less than that you can carry it in the pre-testing stage. The fewer respondents could be taken from different works of their life what should be within your area of your survey or area of your requirement could be tested before the survey starts.

There are certain principles of pretesting before saying so, let me make you one announcement here is that you guys may be getting bored in getting this theory, following these theories, and this background information. Let me mention to you very clearly that from the next week onwards we have practice sessions.

You will learn the use of data, and use of data handling techniques and you will get the assignment questions accordingly. We will be using the previous weeks' information. We will use NFHS data, LASI data, and national sample survey data. And, in the assignment itself, I can ask you about the layout file, I can ask you about the readme file or I may ask you about the string data. You get please prepared, it will help in going through the data correctly or handling the data correctly.

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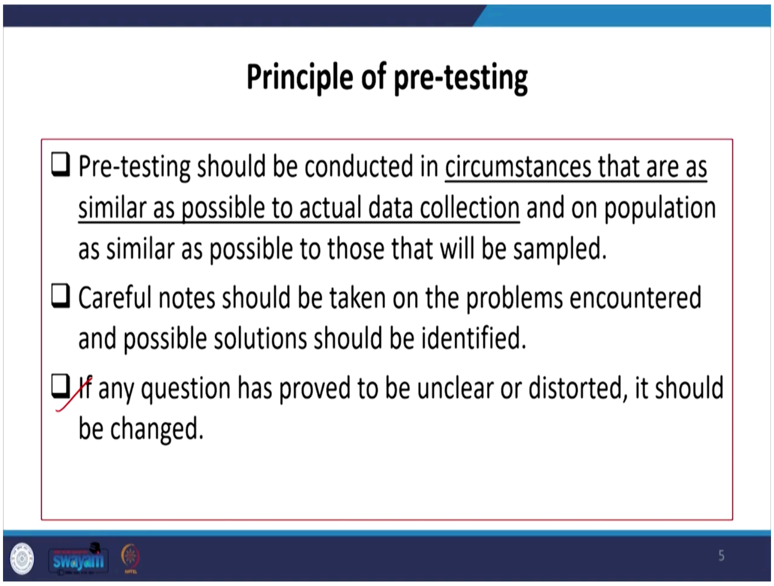

Now, let me explain to you the principles of pretesting. Pretesting should be conducted in a circumstance that is similar as possible to actual data collection and on a population as similar as possible to those that will be sampled. Careful notes should be taken on the problems encountered and possible solutions should be well-identified.

If any question has proved unclear or distorted, it should be changed in the final survey questionnaire or schedule. So, this is important. We are noting here that; if any single point is not following correctly from the previous question or the responses are not so clear. So, in that case, you might think of changing your questionnaire or your design of the final sample.

The pre-test is sometimes called a pilot study or sometimes it is called a pre-pilot study.

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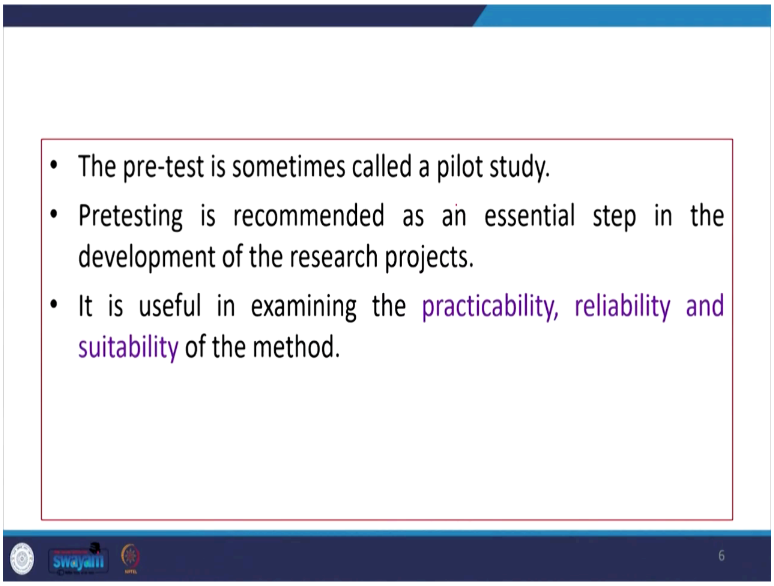

So, pre-testing is recommended as an essential step in the development of the research projects. It is useful in examining the practicability, reliability, and suitability of the method.

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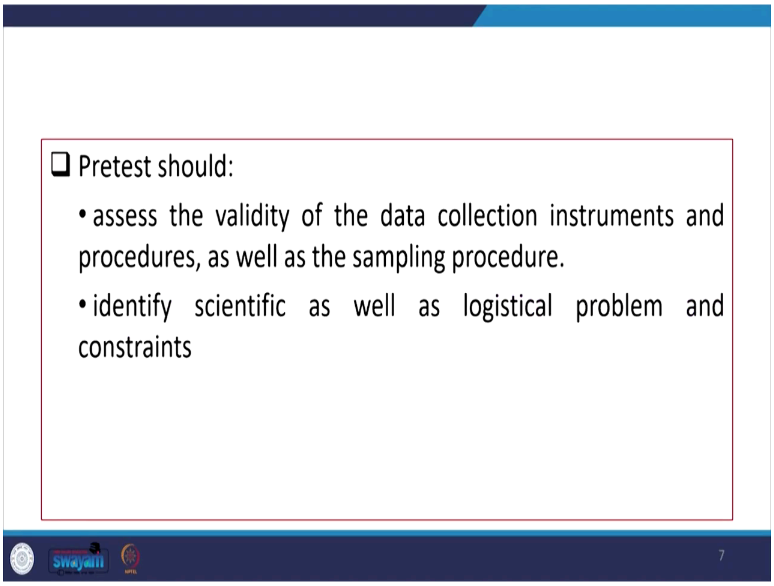

So, those aspects we have going to discuss in our successive slides. A pre-test of the sample should assess the validity of the data collection instruments and procedure as well as the sampling procedure. This should also identify scientific as well as logical problems and constraints.

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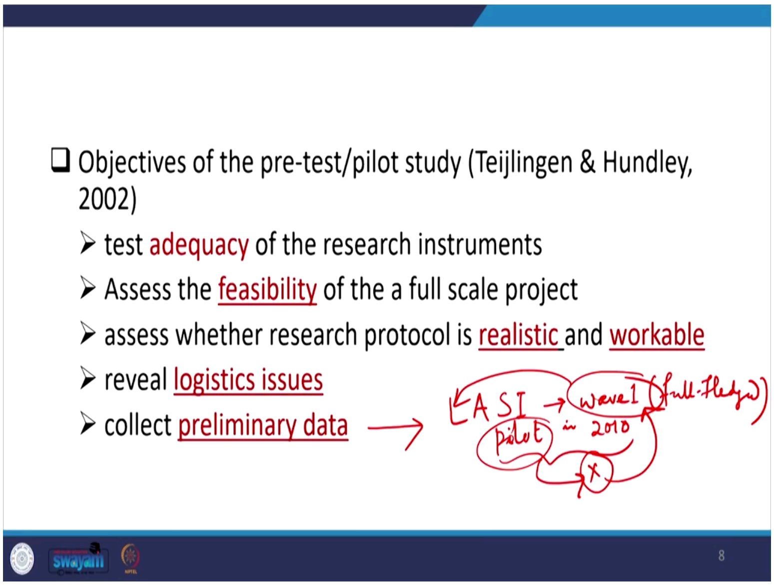

What are the objectives of the pre-test or pilot study as per one of the literature we have cited? Now, we have taken the information from a study published in 2002. They suggest that the objective of the test is to understand the adequacy of the research instruments or to test adequacy, to assess the feasibility of a full-scale project.

It is not feasible to study in Andaman Nicobar or the tribes in Andaman Nicobar or the localities are not cooperating with you. Like in the NSS survey, some rounds you will find that Andaman Nicobar and its approach are different. They are either not included or that approach is different from the way they followed in all other parts of the country for the survey.

So, they design the survey accordingly. So, feasibility is one of the essential requirements of pre-testing of the sample. So, assess whether the research protocol is realistic and workable. If your protocol is workable or not, if it is not realistic, then it is probably better not to go for study.

Then it also requires logistic arrangements. If the logistic arrangement is possible, then pre-testing is also going to be successful. So then, the objective of this is to collect preliminary data, not full-fledged data.

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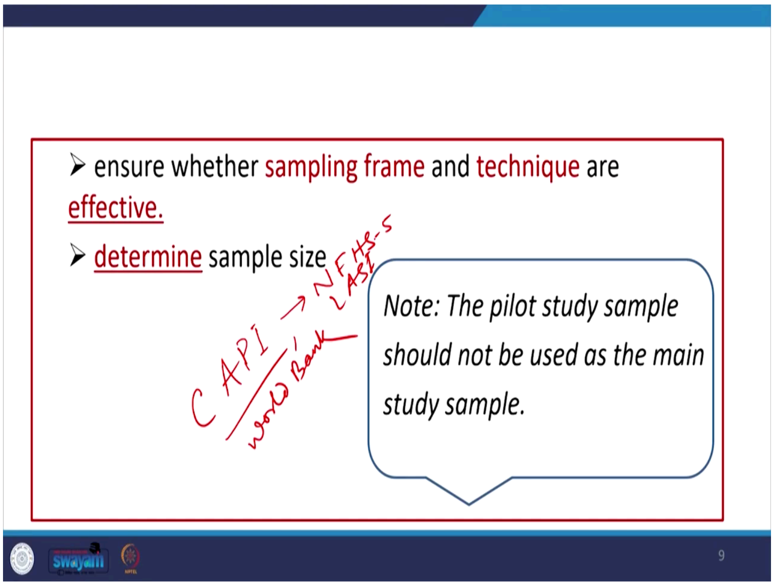

And, let me also give you in this context about our LASI data, those who wanted to connect to their reality. As per the LASI: Longitudinal Aging Survey of India, the latest round (wave 1) was published and I have already explained to you, that it is a full-fledged survey data. Somewhere you might be confused that they conducted the pilot study in 2010.

Since it is wave 1, I told you already it is longitudinal data. L stands for longitudinal data, and it is in panel form. So, the pilot information might give some responses which could be compared with wave 1.

So, the pilot information like Mr. X was studied in wave 1 and the same Mr. X might have been studied in the pilot study in 2010. So, you might compare these two rounds, pilot may consider your wave 1, but you must mark this disclaimer very clearly that all the information that has been considered in the pilot may not be comparable.

But, just to understand whether over this 7- or 8-years period there have been some changes or not, you might compare this pilot study as well. In the report of LASI, it has clearly mentioned that it is possible to compare, but you have to map those people very carefully.

So, one example I have cited for your reference, some others we will discuss in between. Now, this ensures whether the sampling frame and techniques are effective. The objective is to ensure whether the sampling frame and the techniques mentioned are going to be effective.

When similar information is derived from the pilot survey, then the population you are targeting is largely homogeneous.

When your set of responses is homogeneous, then better not to go for large sampling. You could restrict your sample to a limited size or less size. The pre-pilot study helps you to understand the framework as well as the technique for the survey to identify the sample size.

The techniques like whether you should adopt a direct interview or a lot of information could be taken through an online survey or through a telephonic survey or snowballing. The snowball approach, crowd sampling, and CAPI method were adopted by the World Bank.

I think I already guided you about the CAPI method, but you can also follow the World Bank. This is adopted nowadays in most of the frameworks, in NFHS 5, LASI database as well. So, this is going to be useful.

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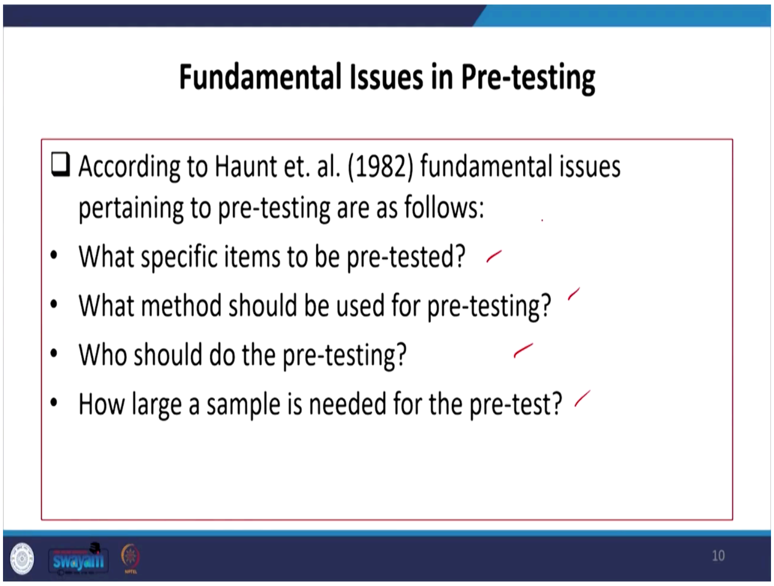

Now, the next one is understanding fundamental issues in pre-testing, some of the fundamental issues suggested by Haunt et. al. in a 1982 paper. These pertain to pre-testing is what specific items to be pre-tested? If the first question needs to be identified, the second one is what method should be used for pre-testing, who should do the pre-testing, and how large a sample is needed for the pre-test? That is also essential, and we are going to guide you in all those directions.

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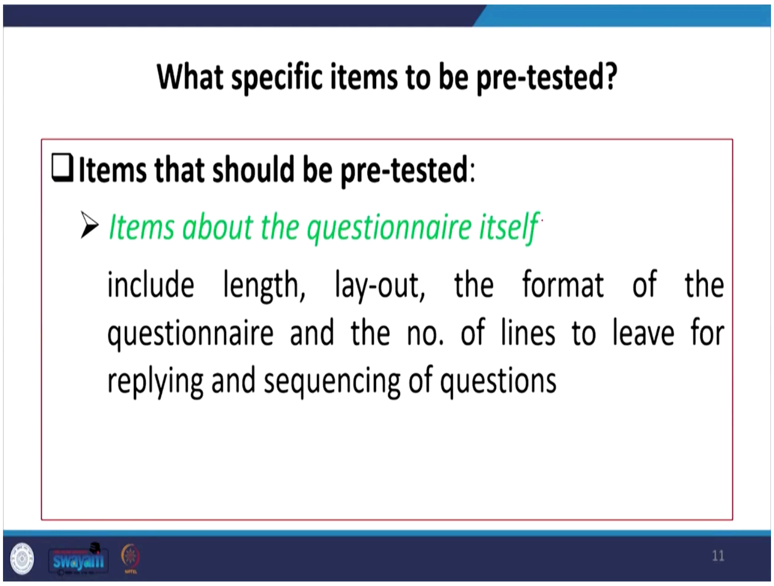

Like what items should be pre-tested, the first question was only that. What specific items are to be pre-tested? So, we are going to mention it here. Item about the questionnaire itself includes length, layout, the format of the questionnaire, and the number of lines to leave for replying and sequencing of the questions in the pre-testing.

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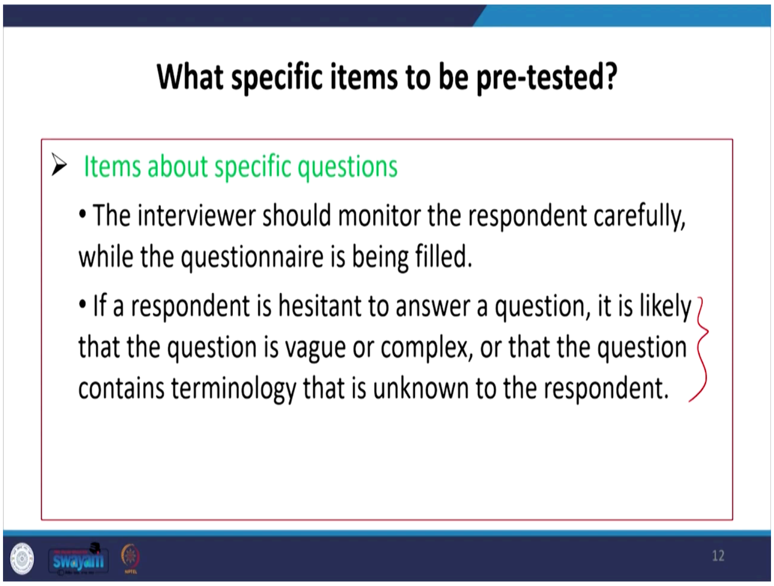

The second one is on items about specific questions, such as whether the interviewer should monitor the respondent very carefully while the questionnaire is being filled out. If a particular respondent is hesitant enough to answer a question, it is likely that the question is vague or complex, or that question contains terminology that is unknown to the respondent.

So, those kinds of information would be corrected. In the question, there might be terminology that might be vague and may not be understood correctly. So, though at the time of filling out the questionnaire and developing a schedule, the researcher might be confused or might not have thought of that aspect, your pre-testing is going to clear all those aspects carefully.

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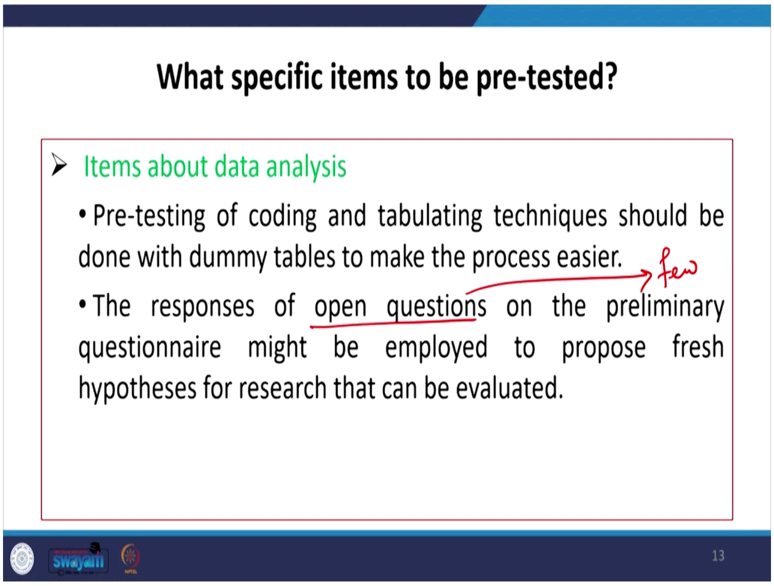

The third one is on what specific items are to be pre-tested? Pre-testing of coding and tabulating techniques should be done with dummy tables to make the process easier. So, dummy tables should be developed. Maybe prototype tables or small version tables that will help you to code and tabulate the information you are collecting from the pre-testing.

The responses to open questions on the preliminary questionnaire might be employed to propose a fresh hypothesis for research that can be evaluated. Though in the full-scale survey you need not have all the open questions. In the pre-pilot testing stage, you can frame some of the open-ended questions. So, those few questions will broaden the scope for the researcher to identify certain new challenging areas which could be included in the final schedule.

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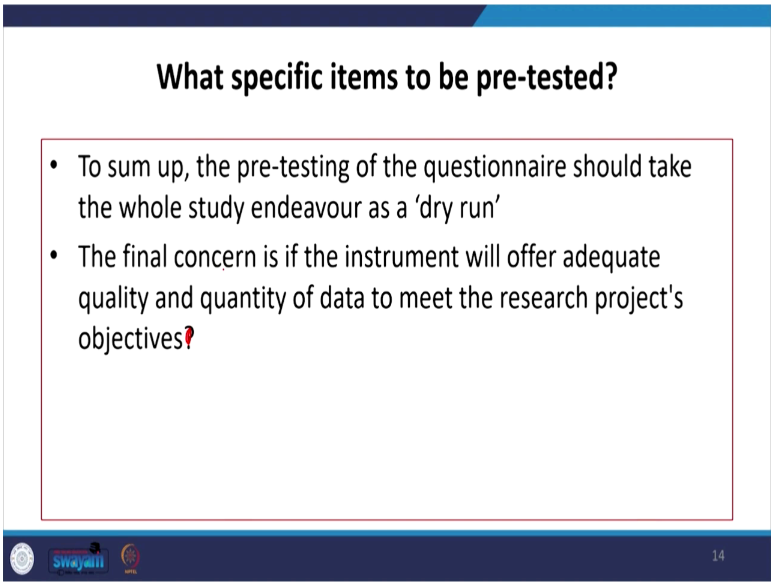

Then specific items are to be pre-tested; the pre-testing of the questionnaire should take the whole study endeavor as a ‘dry run’. The final concern is whether the instrument will offer adequate quality and quantity of data to meet the research project’s objectives.

So, whether this is dealing with the objectives or not, that final concern is always important, that has to be carefully dealt with. Though those objectives are fulfilled qualitatively and quantitatively.

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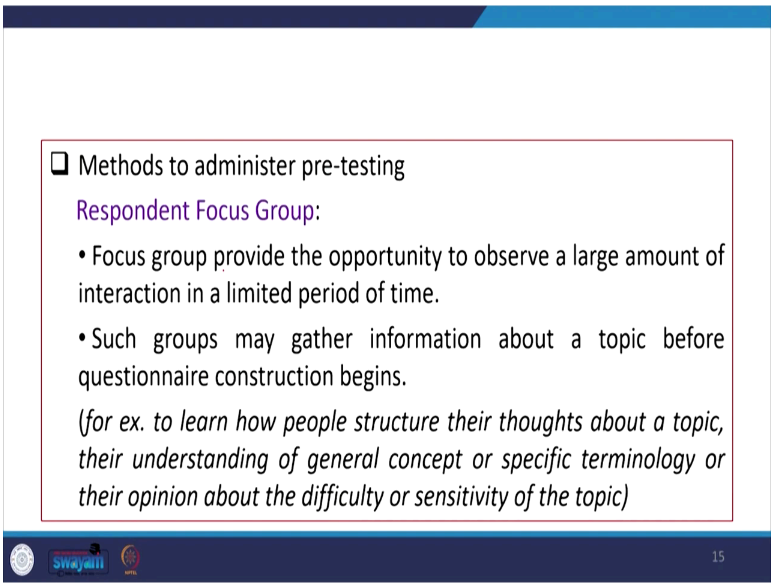

The methods to administer pre-testing as per the second requirement what methods, as per the expert or literature suggest that the focus group provides the opportunity to observe a large amount of interaction in a limited period. Such groups may gather information about a topic before questionnaire construction begins right.

For example: to learn how people structure their thoughts about a topic, their understanding of a general concept or specific terminology, or their opinion about the difficulty or sensitivity of the topic.

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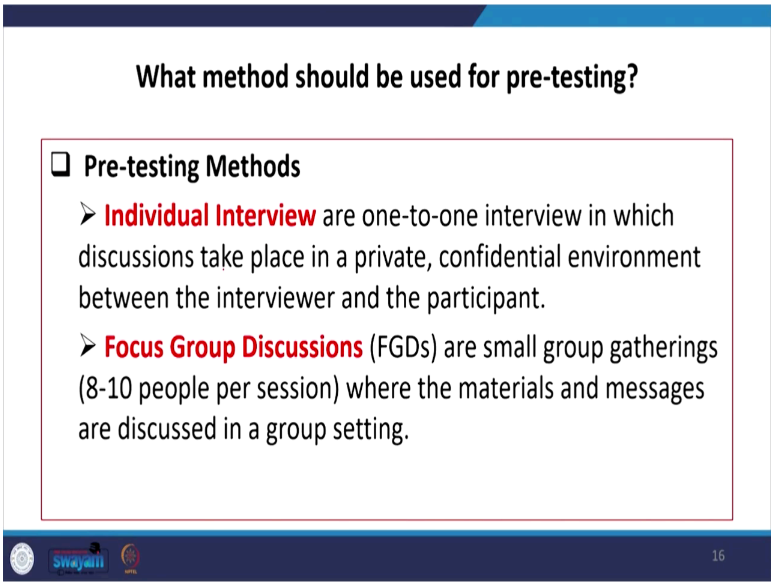

So, those aspects should be taken into consideration. Regarding the methods in the pre-testing stage; one is through individual interviews, and the other is through focus group discussion. Individual interviews are especially one-to-one interviews in which discussion takes place in a private, confidential environment between the interviewer and the participant.

The second one is your FGDs, which I have already discussed in the previous lecture. This is of FGD consists a small group of around 8 to 10 people. At that time I have suggested 6 to 10 people, now you can correct. It might be 8 or 10, it should be within 10. FGDs are small group gatherings where the materials and messages are discussed in a group setting.

Then another method for the pre-testing stage is readability assessment and an expert review. The readability assessment helps to determine a written document's level of readability difficulty. It is done before testing with the target audience during the material development process.

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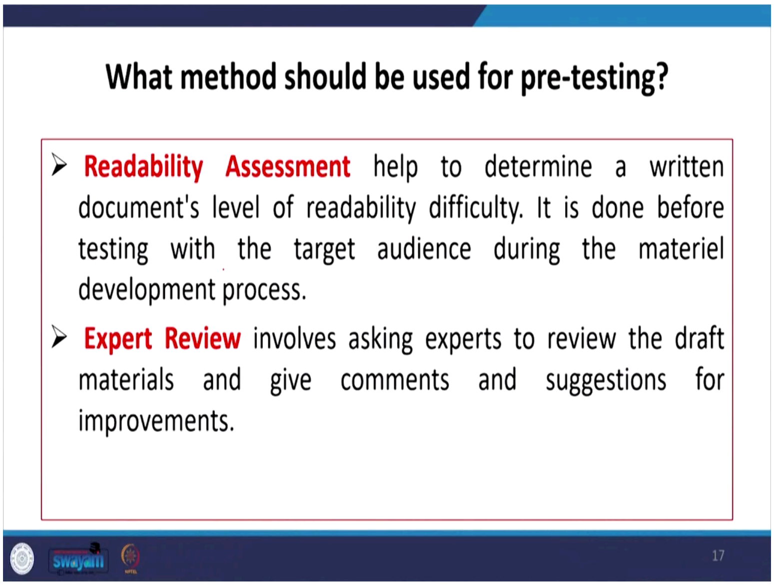

The expert review involves asking experts to review the draft materials and give comments and suggestions for improvement. So, it is also important to note that satisfactory results can be achieved in both individuals and in interviews and group discussions.

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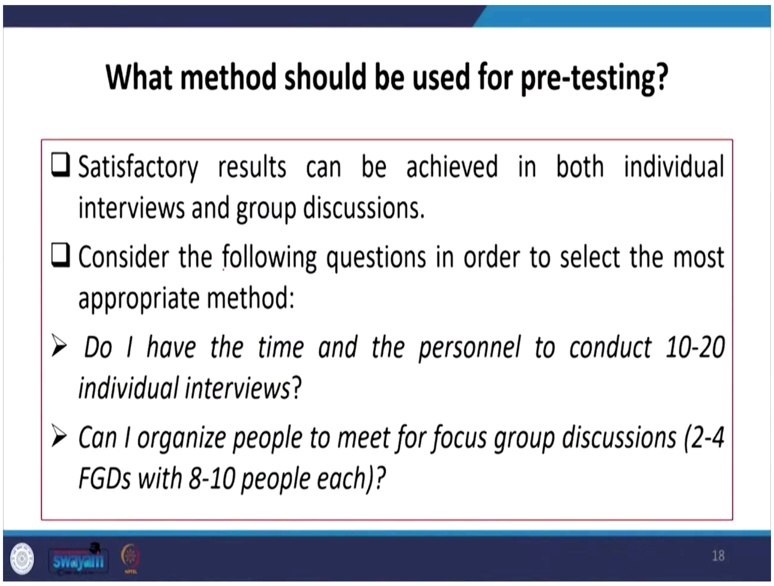

Consider the following questions to select the most appropriate method, like as do I have the time and the personnel to conduct 10 to 20 individual interviews? Can I organize people to meet for the focus group discussion for 2 to 4 FGDs with 6 to 10 people or 8 to 10 people each?

So, these two questions should be clearly understood from the pre-testing round. Which methods would be most comfortable for the respondent? Some people may not like discussing sensitive issues such as sex and HIV in a group, others may feel too shy to talk in a one-to-one situation.

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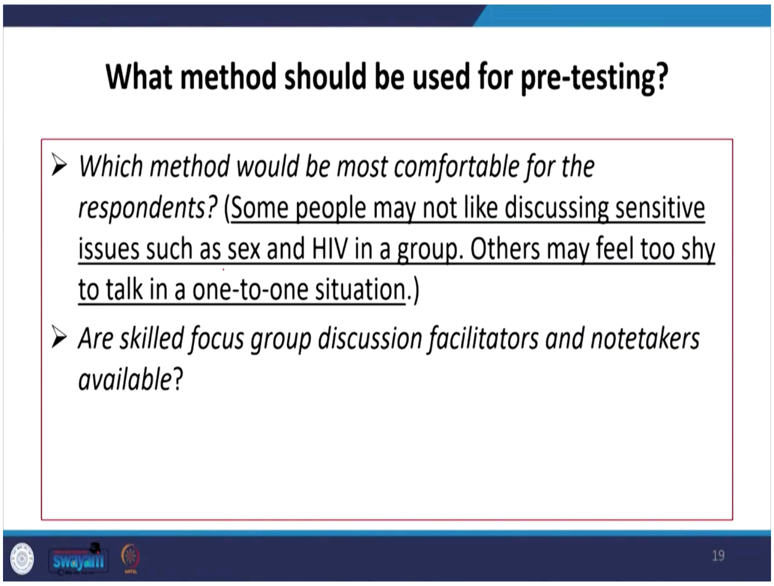

Are skilled focus group discussion facilitators and notetakers available? Then who should do the pre-testing?

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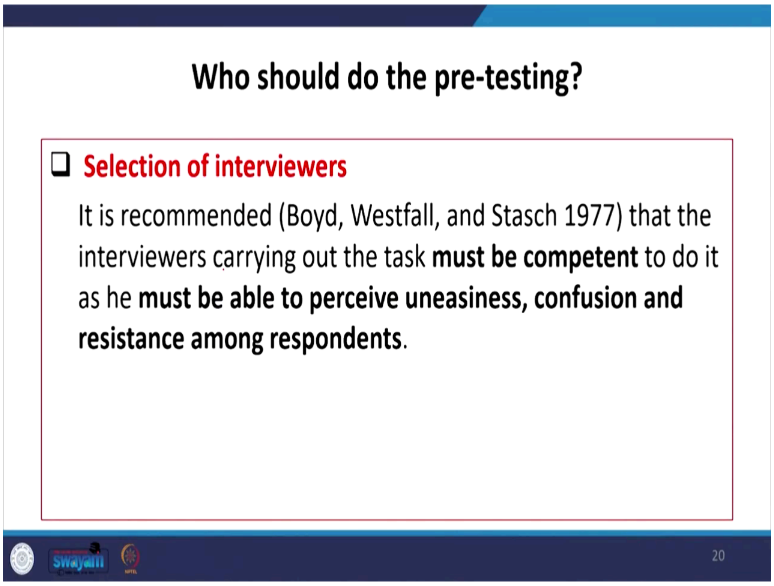

The first one is the selection of the interviewers. Who is going to interview? It is recommended by the work of Boyd and Westfall, Stasch in 1977, that the interviewers carrying out the task must be competent to do it as he or she must be able to perceive uneasiness, confusion, and resistance among the rest respondents.

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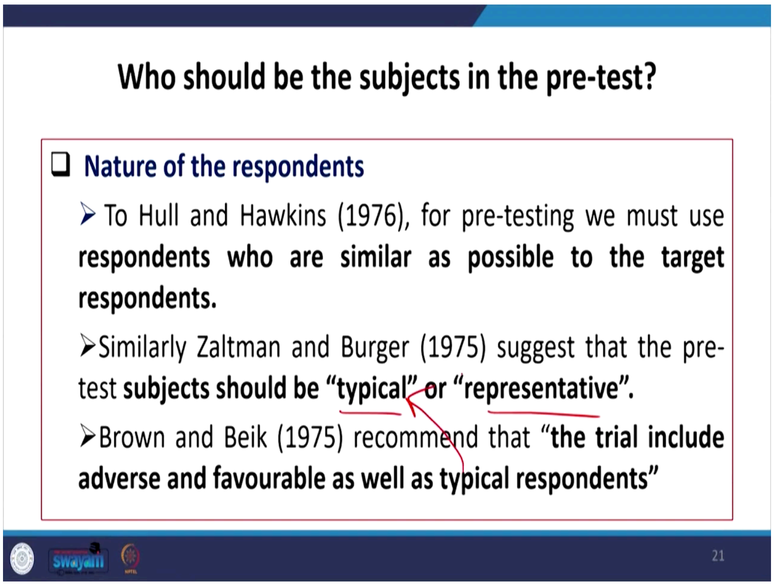

These are required to be tested from the beginning; otherwise, in the full-scale survey, those might be disturbing. The second point is equally important regarding the nature of the respondent, to Hull and Hawkins in 1976. For pre-testing, we must use respondents who are as similar as possible to the target respondents.

Similarly, Zaltman and Burger (1975) suggest that the pre-test subjects should be "typical" and "representative". Brown and Beik (1975) recommend that the trial include adverse and favorable as well as typical respondents. The same aspects were also mentioned by the previous author; adverse and favorable aspects should also be captured.

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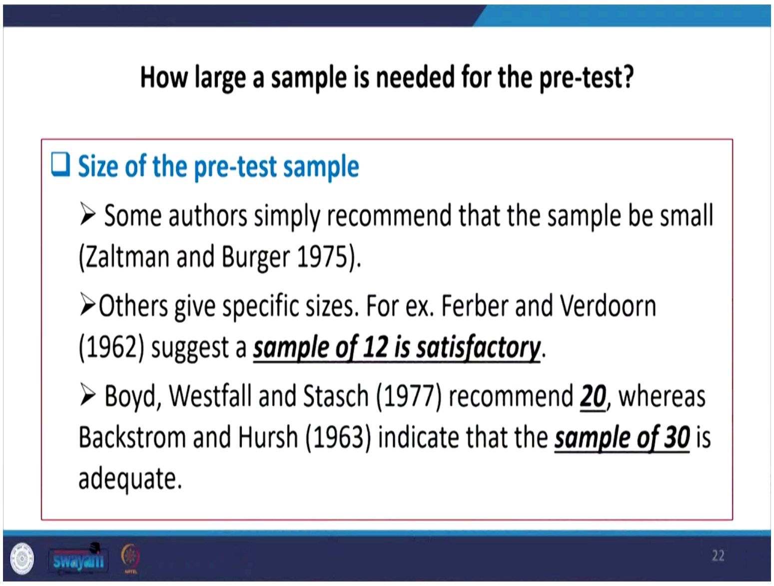

Regarding how large the samples should be? Some authors simply recommend that the sample be small, as per the Zaltman and Burger (1975). Others give specific sizes like, Ferber and Verdoorn (1962), suggest that a sample of 12 is satisfactory and another author suggests 20, whereas some other authors suggest that a sample of 30 is adequate for the pre-testing round.

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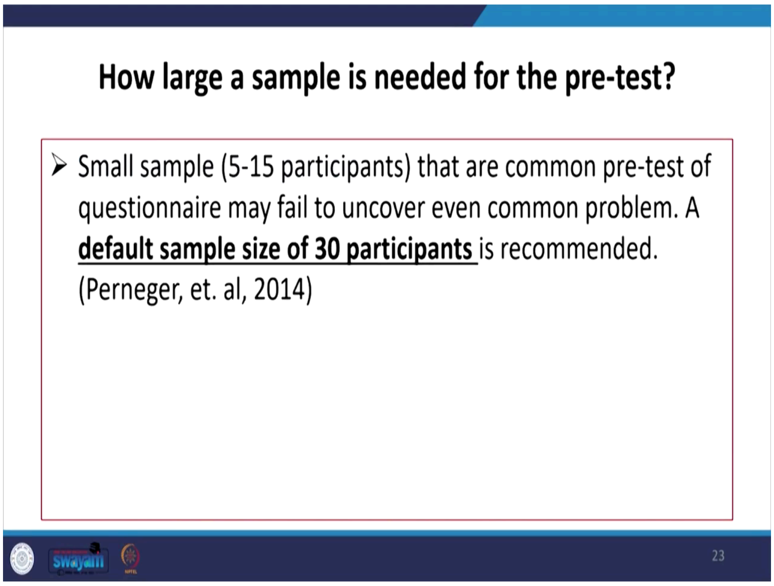

So, far in our conclusion, it should be around 30 which is more than enough for the pre-testing stage. A small sample that is a common pre-test of the questionnaire may fail to uncover even a common problem. A default sample size of 30 participants is actually recommended by Perneger et al. (2014).

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Here I am giving a structured chart of health care research. Some of the tools which are required in the pre-testing, like communication tools or interventions such as print, interpersonal, electronic, and new media. The first stage is to select the pre-test method within the material and compile findings included in this pre-testing that should be identified.

Based on the pre-testing, there must be some minor altercations or major altercations. If there is a minor altercation, then it should be clearly corrected and produce the final material tool or the design or the surface. If it is a major, then redesigning is necessary and accordingly, we can finalize our final schedule, and accordingly, all those processes will help us to evaluate our purpose and evaluate the study very effectively.

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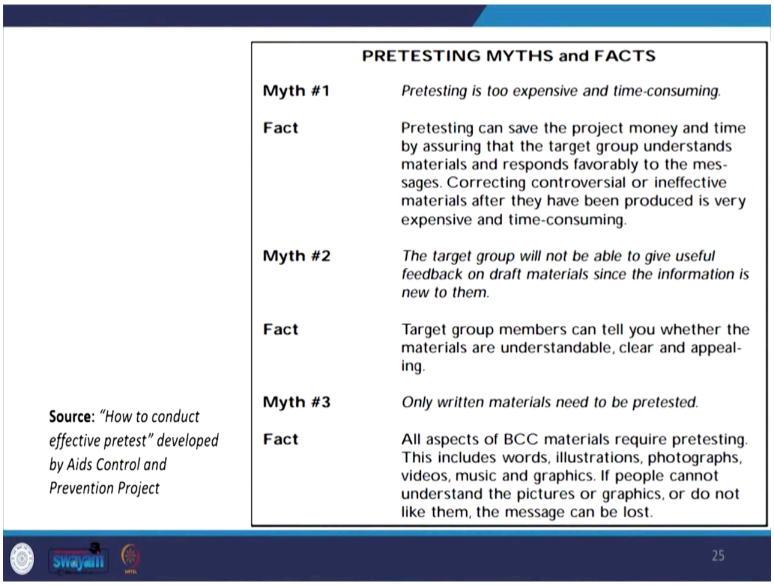

So, on the final page, we wanted to guide you that there are certain myths and facts. Myth number 1 is that pre-testing is too expensive and time-consuming, it is a myth. The fact is that this can save the project time and money by assuring that the target group understands the material correctly. There are some controversial and ineffective materials that could also be sorted out in the pre-testing stage.

Myth number 2 is that the target group will not be able to give useful feedback on draft materials since the information is new to them. The fact is that the target group members can tell you whether the materials are understandable, clear, and appealing.

3rd myth which is essential is that only written materials needed to be pretested. The fact is that all aspects of BCC materials require pretesting. This includes words, illustrations, photographs, videos, music, and graphics. Any approach could also be taken to go for pre-testing.

So, this is all guidance for pre-testing. We will guide you through further details on sampling data testing in our next lecture. So, with this let me close here, expecting your views and questions in the live sessions.

Thank you.