

Development Research Methods

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Module No # 01

Lecture No # 03

The rigour in Development Studies Research

Hello and welcome to NPTEL MOOC's course of development research methods. In this week's lesson 3, let us focus on the rigour in Development Studies research. In today's world of increasing competitiveness with regard to finding research publications in the best peer reviewed journals, there has been a lot of focus on this issue of rigour in social policy research, social sciences research, and most particularly in Development Studies research given the multifaceted nature of Development Studies. Because it cuts into multidisciplinary, cross-disciplinary as well as interdisciplinarity and therefore, in terms of research methods, we need to have some clarity with regard to what do we see when we say that there should be rigour in Development Studies research or development research.

Let me begin today's lesson by sharing some empirical findings which various scholars have gone on investigating with regard to how researchers or the research community themselves evaluate rigour in development research as.

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What we will cover in today's lecture

1. What is 'rigour' in Development Studies
2. Doing rigorous research in Development Studies
3. Assessing quality of Development Research

So, what we will cover in today's lecture is this concept of what is rigour in Development Studies. We will also see what are the steps that are involved in doing rigorous research in Development Studies in this part of the lecture. The second part when we are looking at how to do rigorous research, you may find that there are some overlaps with yesterday's lecture or lesson 2 on the different steps of development research methods.

And lastly, we will also look at how assessment of quality in development research is being done.

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Quality in Social Policy Research	
Respondents classifying criteria as 'very important'	
Top 5	
1. The research is written in ways that are accessible to the appropriate audiences	82.9%.
2. The research design adopted clearly addresses the research question(s)-	82.5%.
3. The ways in which data were collected and analyzed are transparent -	78.8%.
4. An explicit account of the research process and analysis of data is provided-	76.5%.
5. The research makes a contribution to knowledge –	68.9%.
Bottom 5	
30. The research is published in a prestigious refereed academic journal –	13.2%.
32. A randomized controlled design was used –	12.8%.
33. A publication deriving from the research is cited in prestigious refereed academic journals –	11.6%.
34. The research is published in a professional journal/magazine –	7.6%.
35. The research is published as a chapter in a book –	2.4%.

Source: Becker et al. (2006) cited in Sumner (2006)

So, let us begin with this slide which talks about some of the empirical findings with regard to quality in social policy research. We now have some research regarding, as I was saying how research community themselves judge quality in social research. For example, Becker et al 2006, the citation of which is given at the end of this PPT, they asked over 250 social policy researchers and users of research how they conceptualized quality in social policy research, and they placed research publication at the bottom of the list.

So, if you look at the respondents' classifying criteria as very important when they are thinking about social policy research, the top five answers that came up was that research must be written in ways that are accessible to the appropriate audiences, which was about 83%. Close to 83% responded that research design adopted clearly addresses the research questions. About close to 80% again answered that the ways in which data were collected and analyzed should be transparent. Little more than 76% responded that an explicit account of the research process and analysis of data must be provided and about 69-70% answered that the research must make a contribution to knowledge. We spent some time in the last lesson on production of knowledge and how different research methods contribute to knowledge. One of the goals of these different research methods is to contribute to knowledge.

And strikingly the bottom five answers if you look at, only about 13% responded that the research if it is published in a prestigious refereed academic journal would suggest that it is quality social policy research. Little more than 12% responded a randomized control design was

used. Here it must be mentioned that randomized control design is one of the methods of quantitative research, which is used to lessen biasedness in research. And therefore, randomized control trials are much in use in quantitative studies. However, if you look at the responses of the research community themselves, very few researchers lay emphasis on randomized control design. A little more than 11% answered that a publication deriving from the research is cited in prestigious refereed academic journals. More than 7% said that the research is published in a professional journal or magazine and only about 2% said that the research is published as a chapter in a book.

So, these are some of the important criteria or very important criteria that the research community themselves have identified in terms of deciding whether the published research work is qualified to be identified as rigorous research or not. And therefore, given these findings, it is very clear that the research community themselves lay a lot of emphasis on how the research has been carried out. How transparent the data collection process has been, how robustly the data has been analyzed, and how explicitly the research process and analysis of data has been described in the research publications that are coming out. And ultimately, whether the research is written in ways that are accessible to appropriate audiences, which means how the research is being communicated is something which is very important. And ultimately, of course, whether the research makes a contribution into the body of knowledge or not.

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Judging quality and rigour	
Traditional criteria	Alternative criteria
Validity: the extent to which there is a correspondence between data and conceptualization	Credibility: the extent to which a set of findings are believable
Reliability: the extent to which observations are consistent when instruments are administered on more than one occasion	Transferability: the extent to which a set of findings are relevant to settings other than the one or ones from which they are derived
Replicability: the extent to which it is possible to reproduce an investigation	Dependability: the extent to which a set of findings are likely to be relevant to a different time than the one in which it was conducted
Generalizability: the extent to which it is possible to generalize findings to similar cases which have not been studied	Confirmability: the extent to which the researcher has not allowed personal values to intrude to an excessive degree

Now, when the question of what kind of criteria might be used to judge quality and rigor arises, typically we think of the validity, reliability, replicability, and generalizability criteria to evaluate social research. And the most common research quality criteria that are often used, whether the research results are published in a peer reviewed or refereed journals, and whether the research has been funded through a process which includes peer review. However, as seen from the first slide on responses from the research community on social policy research that is coming out, it is very clear that this publication is post-process and therefore, it has been questioned a lot. Some scholars have argued that quantitative and qualitative approaches in social sciences and specifically in Development Studies need to be judged by a different or alternative criterion.

So, there are rigour issues raised by the implications of the policy related nature of much Development Studies research and by the question of positionality. How as a researcher we are positioning ourselves in the kind of research that we have taken up, the development question that we have taken up. Development researchers are part of a process. They want to influence the discussion, raises the issue of distinguishing between acceptable and unacceptable biases. So, some of the traditional criteria that are used to judge quality and rigour in social science research, following quantitative and qualitative techniques of doing research are as follows.

So, first is validity. Validity would mean the extent to which there is a correspondence between data and conceptualization, whether we have validated our data with respect to the way the research question has been conceptualized. The second criterion is that of reliability, which is the extent to which observations are consistent when instruments are administered on more than one occasion. So, which means that when we are administering the instruments with rigour, so, if you are administering the same set of variables to understand a certain research problem, whether in the final analysis, it is being repeated or not. So, that will give us a sense of whether the research is reliable or not. Replicability is the extent to which it is possible to reproduce an investigation. And of course, finally, generalizability which is one of the important components of descriptive studies or explanatory studies, which is the extent to which it is possible to generalize findings to similar cases which have not been studied.

But given the uniqueness of Development Studies, the development issues which are being taken up with regard to applied research in the social sciences, many scholars are of the opinion that

the traditional criterion usually do not stand up to when we are judging quality and rigour in Development Studies. And therefore, there must be an alternative set of criteria that must be kept in mind for judging quality and rigour in applied research with respect to Development Studies.

So, what are these alternative criteria? Instead of validity, we could probably look at credibility, which is the extent to which a set of findings are believable. So, validity which is purely going by technical use of data, and technically concluding from the data, alternative criteria for judging quality and rigour in the case of Development Studies could be credibility. Similarly, instead of reliability, we could probably focus more on transferability, which is the extent to which a set of findings are relevant to settings other than the one or ones from which they have been derived. Instead of replicability, we could focus on dependability, which is the extent to which a set of findings are likely to be relevant to a different time than the one in which it was conducted. And instead of generalizability, we could focus more on confirmability, which is the extent to which the researcher has not allowed personal values to intrude to an excessive degree.

Now, because traditional criteria are biased towards quantitative approaches, alternative assessment criteria seeks to be more inclusive and therefore, we could shift from looking at validity to credibility, reliability to transferability and so on.

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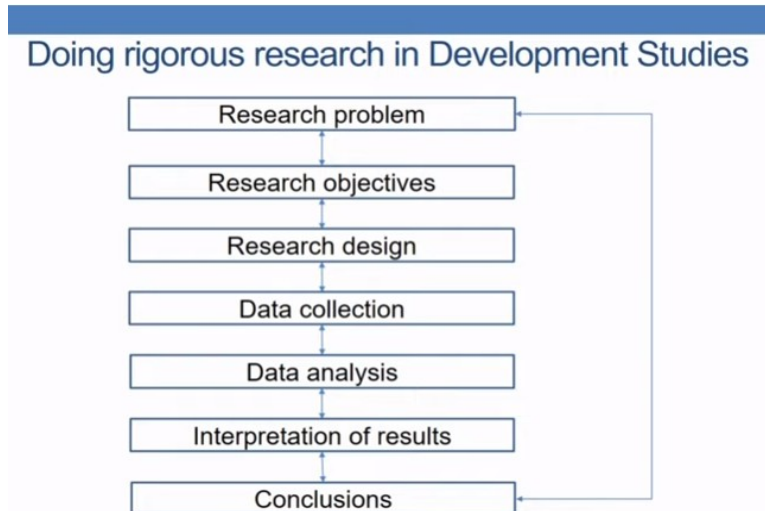
Rigour is essentially about

- Taking a systematic approach.
 - A properly defined research problem.
 - The scope of the research questions is not so broad as to make meaningful research difficult.
 - Data collection is closely aligned with the research question.
 - Consistency in the analysis.
 - Transparent research process.

Now, what is rigour essentially about? Rigour in Development Studies is essentially about taking a systematic approach. Now, although the choice of criteria may differ, it is argued that rigour is essentially about taking the systematic approach. Now, what do we mean when we say a systematic approach? It basically means that the research problem is properly defined, and that the research questions are articulated clearly. Research questions and hypothesis must be closely aligned with the research problem, and that the scope of the research questions are not so broad as to make meaningful research very difficult. Furthermore, a systematic approach also means that data collection is in close alignment with the research question and that there is consistency in the analysis through the use of accepted and standardized techniques.

So, in short, the entire research process is systematically linked to the research questions and the entire research process is transparent. And if we are able to confirm that all of these things have been in place, then we can say that okay, this research has been rigorous or it has been rigorously carried out or there is rigour in the research process that has been taken up.

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So, what are the steps we can identify with respect to doing rigorous research in Development Studies? It is showing up on your slide now. You will see that there are some overlaps with this and lesson 2 on the focus and goals, and purpose of development research. However, it is

important to repeat this because rigorous research in Development Studies also clarifies that, you know, all of these steps should have been very robustly determined.

So, development research combines methods and methodologies as we pointed out in the last lesson, and it is derived from constituent disciplines, which is actually a strength of Development Studies. However, the combination of a range of methodologies and methods in practice is a complex affair, and it can lead to bewildering number of combinations. So, employing more than one type of research method as well as working with different types of data with different investigators, sometimes different research teams working in different research paradigms, requires a special type of attention to potential inconsistencies and methodological clashes.

Further, there is an unhelpful misperception based on the perceived objectivity of quantitative techniques that they are more rigorous than qualitative approaches. Often there is this belief that quantitative techniques are more rigorous than qualitative approaches and therefore qualitative studies or conclusions derived of qualitative studies are not taken “very seriously” by development analysts.

But it must be kept in mind that however, badly or misleadingly applied both qualitative and quantitative techniques give bad or misleading conclusions. So, the issue is rather the appropriateness of the quantitative or qualitative approaches to different settings and the way in which we are combining both. There will be one lesson in which I will be contributing a lot of time to understanding what are the ways in which qualitative and quantitative techniques can be mixed or what is referred to as a mixed methods approaches.

Now, the research process itself can be viewed as consisting of six linked stages as are being shown on the slide. So, in practice, the research process or cycle is likely to be more iterative. For example, there is likely to be no discrete literature review stage, in the sense that for each stage of the research, it is necessary to depend on and to refer to relevant literature and to adjust the research process accordingly.

Let us begin with the research problem again. I have spent some time on research problem in lesson 2 as well, but it makes sense to focus a little more on research problem with respect to doing rigorous research in Development Studies. So, stage one of the research process or cycle is

basically identification and definition of a research problem. And this usually entails a literature review and perhaps a process of consultation leading to the identification of a problem area. And researchers are increasingly concerned about who sets the research agenda and in certain approaches such as participatory approaches, the participants or subjects of the research may be involved in setting the agenda for research for the researcher. So even in participatory approaches, premier research relating to relevant subject area will be reviewed for gaps or for new ways of looking at a problem area perhaps with a view to challenging contemporary orthodoxy. given that there are relatively few totally unresearched areas in Development Studies, this stage of the process or cycle often takes existing research and approaches and develops the current understanding further, by reframing the research problem through the connection of unconnected phenomena through collecting new up-to-date data or through challenging orthodox beliefs with newly reinterpreted data or new analysis of the old data.

So, the definition of research problem is often also affected by institutional factors such as the priorities of a university or a department, the institute, the funding organization which propels or fuels the kind of research problem that needs to be taken up and so on. Personal views about research priorities and research design are likely to be modified by an institutional matrix, while a particular research problem will relate to the more general definition of a subject area, the objectives of research are specific and the research questions or hypothesis which are established will specify a feasible research project that effectively address the problem identified. So often, the identification of the research problem has certain institutional priorities also, because given the positionality of the researcher herself, the research problem is also identified. If you are doing more of academic research, the researcher identifies the research problem, which is rather unbiased and contributes to the body of knowledge whereas, if the research is being carried out by a development practitioner, with funds being received from various agencies, the research problem is again identified based upon the agenda that the research agency has on mind.

The next step in doing rigorous research is research objectives, and the research objectives are generally generated from the identification and definition of a research problem. So, objectives need to be specific, they need to be feasible and tangible. And from the research objectives, research questions or research hypothesis are generated. So, research questions and hypothesis might be said to mirror each other. Sometimes we display them as research hypothesis, and

sometimes we might want to display them as research questions. So, hypothesis can be expressed as a research question and vice versa. Research hypothesis will be stated explicitly when the researcher intends to test a proposition particularly, through help of statistical inquiry. However, if not so, then research questions are more likely to be used than a strict hypothesis testing approach because research questions allow the researcher to be more broad, open and flexible with regard to the research process or the research design that one wants to put in place.

The third step is that of research design. Now, this comes in after the research problem has been defined and research questions or hypothesis have been established. And this can be broken down into a series of sequential choices. So, what can be the sequential choices? First, the research design can be based upon the choice of a theoretical framework or a conceptual framework that one needs to take up for a study. It must include a choice of methodology that is a part of research design, the choice of data collection methods- whether one wants to entirely depend upon secondary data or one wants to go for primary data collection, one wants to go for archival work or ethnographic work or one wants to follow a mixed different possible research methods combinations. There can also be a choice of data analysis techniques, whether the analysis follows a case study and coding approach or whether it wants to follow a more rigorous statistical technique and so on. So, research design constitutes within itself all of these practices.

Now, although ethical and practical considerations will play a significant role in decisions, such should be led by the research problems and by the research questions or hypothesis. For example, the choice of the theoretical or conceptual framework is very fundamental to the research design and the research problem that we are trying to study. So, if the research problem, questions or hypothesis, say for example, relate to the livelihoods of poor households, then the sustainable livelihoods approach might be chosen. And in most cases, though the choice will not be as straightforward and may involve amending, blending or combining existing theories or the wholesale construction of a new theoretical framework as a basis for conduct of research. But one of the beginning points of research design is always to focus on the conceptual framework within which we want to position our research problem and the research study all together. Now, it is important to focus on the conceptual framework because the conceptual framework finally chosen will enable us to determine what is the methodological choice that we are trying to make with respect to our research question.

The methodology is overall research strategy which is adopted in order to address the research questions or hypothesis and the methodology in term informs not only the methods and techniques chosen for collection of the data, but also informs the choice of techniques for data analysis. So, for example, some of the questions that needs to be kept in mind when we are at the stage of research design is with respect to methodology are follows. So, because we are talking about the Development Studies research here and the multifaceted nature of development, there are cross disciplinary, interdisciplinary and multidisciplinary perspectives, some of the questions that need to be kept in mind when deciding on the research design could be as follows.

One is, should the methodology be multidisciplinary, interdisciplinary or transdisciplinary? And what particular range of disciplines should be chosen within the selected approach? That's one of the first questions because there are influences from all of these approaches, when we are considering the development question. So, this could probably be one of the first questions; whether the focus should be on multidisciplinary, transdisciplinary or interdisciplinary or cross-disciplinary and therefore choose the right range.

A second question could be, should the methodology be quantitative or qualitative or a combination of both, and when we are combining them both how responsibly we are combining the quantitative and qualitative, because there are different methods that have been set in place to be able to come up with possible combinations of research. A third question could be, should the methodology be participatory or non-participatory or a mixture of both or some aspects of participatory approaches can be incorporated?

A fourth question could be, should the methodology be related to a survey, case-study or a combination of survey and case-study approach? And another question could be, what is the level of complexity that we are trying to enter into when we are trying to focus on a particular research question. For example, in terms of sample size, whether a comparative study is involved, whether it can be handled by a single person or whether the approach needs somebody more experienced or whether a research team of whatever makeup is really needed.

So, there are then further questions to be considered that lead on from choices in the above questions. For example, there is a variety of qualitative and quantitative and participatory methodologies available and some of them may be mixed and cannot be mixed as well. In

qualitative methodologies alone, there is a wide variety of choice between say for example, ethnography, phenomenology grounded theory, structural ethnography and so on and so forth. Similarly, in quantitative techniques, there is a wide range of methods that can be applied to answer the same research question.

The next step in deciding on the rigour in Development Studies is of course data collection, where there is a lot of emphasis on ensuring that the data is not contaminated. So, on the issue of data collection, one of the significant decisions is between the use of primary and secondary data. The collection or generation of primary data is resource intensive and can be expensive, because it utilizes a very high proportion of the available research resource. However, particularly in developing countries, it is possible that relevant secondary data is either not available or it cannot be used for because they are not being collected regularly. So, it may not be sufficiently reliable for developing countries to start using secondary data therefore, which is why it is always necessary to collect primary data. But in some cases, it may be necessary to compromise the formulation of research questions in order that secondary data can be used, because it may not be possible to collect primary data and therefore, one needs to come to a compromise on this. The data collection stage can also be seen as an operational stage and the methods chosen are used to generate the data that will be analyzed. The data, whether primary or secondary must relate directly to the research question or hypothesis that has been taken up, if they are to directly and very clearly, very unambiguously address the objective or the question that we have posed.

The next step is that of data analysis and this is the stage when the researcher takes all the data collected, examines, considers, categorizes, and processes the data. The data can then be tabulated systematically and trends, regularities, and patterns are identified in order to test the research questions or hypothesis. For quantitative data, the analysis can take the form of presentation of descriptive statistics and more elaborately processing using statistical or mathematical methods such as regression analysis, different kinds of regression analysis, time series analysis and so on. And computer software such as SPSS or Stata are used to be able to analyze data. For qualitative data, choice is often made between content analysis, which can lead to generation of quantitative data from qualitative data or various forms of discourse analysis.

The final step is that of interpretation of results. So, after the data have been organized, and presented and processed and analyzed, the results need to be interpreted and contextualized, given the research background that we may have posed to the research problem that we may have posed. So, it needs to be contextualized which is arguably the most difficult part of the research process and before being written up in reports of various types or being published in peer reviewed journals. So, these stages and processes of course become more complex, if methods and methodologies of Development Studies are mixed. Because if the methods are mixed, then the data analysis process also takes a lot more time and communicating the results of such data also has to be done more rigorously.

Now, keeping in mind the various steps involved in doing rigorous research in Development Studies, the next step that takes place of rigorous research is to be able to assess the quality of development research, and it is useful to keep certain questions in mind when assessing quality of research.

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Assessing quality of research

1. How credible are the findings?
2. How has knowledge or understanding been extended by the research?
3. How well does the evaluation address its original aims and purpose?
4. How well is the scope for drawing wider inference explained?
5. How clear is the basis of evaluative appraisal?
6. How defensible is the research design?
7. How well defended are the sample design/target selection of cases/documents?
8. How well is the eventual sample composition and coverage described?
9. How well was the data collection carried out?

These questions are also self-evaluative in nature. It helps us realize whether we have been able to bring rigour to the research question that we have taken up. Now, because Development Studies research is often in areas with a strong policy and practice related dimension with

associated layers of potential and actual value judgments, there are important issues relating to rigour, subjectivity and the demarcation of acceptable biases.

There have been a number of attempts to establish a system of research standards in say for example, biomedical research, and some of these have been incorporated into evaluation of social science research in recent years. One example is a wide-ranging discussion of the assessment of qualitative research. Although intended to apply only to qualitative methods, it provides a helpful basis for evaluation of quantitative approaches as well. Various scholars have put together a number of questions that helps us assess quality of research. These slides contain 18 such appraisal questions, which must be kept in mind.

First is how credible are the findings? Second, how has knowledge or understanding been extended by the current research that we are undertaking or we have undertaken? Three, how well does the evaluation address its original aims and purpose? So, the given original research questions and research objectives that have been specified, does the evaluation and do the conclusions arising out of the evaluation taken up address the original aims and purpose? That helps us assess quality of research. Often, we begin with something and we end up with something else and often some of the research reports investigating development questions do not end up answering the primary questions, primary research problems or research questions that have been posed by the research.

Another question could be how well is the scope for drawing wider inference explained? Can we draw wider inferences from the conclusions coming up from the development research report? Next is how clear is the basis of evaluative appraisal? How defensible is the research design? Can we defend the research design? Is there robustness in the research design? Is there rigour in the research design? And therefore how defensible is the research design will depend upon how robust is the research design. How well defended are the sample design, target selection of cases and documents, whether they have been scientifically done or not? How well is the eventual sample composition and coverage describe? This is important to answer the question of generalizability and confirmability. How well was the data collection carried out?

Similarly, there are questions about how well has the approach to and formulation of analysis been conveyed? How well are the context of data sources retained and portrayed? How well has

diversity of perspective and content been explored? How well has detailed depth and complexity of data been conveyed? How clear are the links between data interpretation and conclusion? This is something which gives a lot of rigour to the study that has been carried out. Specifying the clear links between the data that has been collected, its interpretations, and conclusions. How clear and coherent is the reporting? So, a lot goes into the communication of the report or how we are communicating the research or disseminating information through the report writing process. How clear are the assumptions, theoretical perspectives and values?

What evidence is there of attention to ethical issues? So, for example, when we are conducting a survey, how have we dealt with our respondents or participants? There is a lot of contention with regard to the usage of the term respondents and participants. For example, the focus of action research is on looking at the subject as a collaborator in research, where the subject himself or herself is a participant in the research and the researcher is also a participant in the research and this is a constant dialogue happening between the participant and the researcher herself. So what evidence is there of attention to ethical issues? And how adequately has the research process been documented? These are some of the questions that needs to be kept in mind when assessing quality of development research.

Now, having come far with regard to assessing quality of research, there is also an element of subjectivity and bias, when we talk of research. And some of the things that we need to keep in mind when understanding subjectivity and bias or taking care of subjectivity and bias are following. What is acceptable and unacceptable bias? What is this whole issue of data mining? The relationship between data and research questions and understanding the data?

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Subjectivity and bias

- Acceptable and unacceptable bias
- Data mining
- Relation between data and research questions
- Understanding the data

Let us take them one by one. With regard to acceptable and unacceptable biases, the instrumental policy oriented or normative point of departure of many researchers in Development Studies pertains to the issues of subjectivity and bias. Now, the important subjectivity-objectivity issue amounts to acknowledging that Development Studies research is often concerned with normative issues. So that subjective bias may be introduced, some of which may be acceptable and some of which is certainly not acceptable.

As far as possible subjective or normative positionality should be made explicit and allowance should be made for this in data collection, analysis and interpretation. So, what is the normative perspective that we are coming from, how are we positioning the research may be made very clear because data collection, analysis and interpretation depends a lot on the normative position that we have taken when we are initiating research.

So, the evaluation of rigour in Development Studies research involves distinguishing between deliberate misinterpretation or omission, which bias the outcomes in a direction which coincides with the bias of the researcher. Now, when this coincides with the bias of the researcher, we may consider this as being unacceptable. And acknowledged bias in values such as recognizing that poverty is a multi-dimensional concept or in data that is being acceptable. So, these are certain things that need to be kept in mind.

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Possible Types of Bias in Development Studies Research

	Unintentional bias	Deliberate bias
Bias introduced by researcher	Personal values and positionality	Design of research- specification of research problem- Rejection of evidence
Bias introduced by the researched	Misreporting and imperfect recall	Responding on behalf of others
Bias introduced by the research process	Availability of accurate sample frame- Imperfect access to data	Interviewer influence

Now, what are the possible types of biases in Development Studies research? We can categorize them under unintentional biases and deliberate biases. Now, both these kinds of biases can be introduced by the researcher. It may be introduced by the researched or the subjects that we are studying or the bias may be introduced by the research process itself. Now, what are those biases that may be introduced by the researcher?

Unintentional biases are the personal values and positionality. So, suppose for example, I belong to a certain ethnic group, and I am researching my own group for a particular research question that I have taken up. Then I am an insider in this group. But as a researcher, can I keep aside my ethnic identity to be able to research, to be able to investigate the question unbiasedly? And therefore, my positionality in the research that I am undertaking becomes of utmost importance, because there may be an element of unintentional bias that goes into the interpretation of the data that I am taking up. So, this is one example.

A deliberate bias could be the design of research, specification of research problem or rejection of evidence. So, if I take the same example of, I belong into a certain ethnic group, and let us say, I am taking up the question of ownership of land in a certain locality by a certain ethnic group. And if in the background, I am antagonistic to another ethnic group, which has access to land or does not have access to land and if I reject all evidences, which contradict my bias, and I make that my research question, then obviously I am committing a deliberate bias in the research and the interpretation of the research results may be absolutely erroneous. So, in this case, the

bias may be introduced by the researcher that needs to be kept in mind. Sometimes it may be an unintentional bias, the whole insider-outsider issue with regard to research, and sometimes it may be a deliberate bias.

There are biases introduced by the researched. So, unintentional biases are misreporting an imperfect recall. Often in employment surveys or consumption-expenditure surveys, when we ask the respondents to recall the amount of food consumed over a period of time or the number of days they might have worked, to be able to report that in the questionnaire, often there is a recall error, and due to which there is a lot of misreporting in the questionnaire and which can again lead to erroneous results. So, the researched might also introduce some unintentional biases.

Deliberate biases may come in when the researched are responding on behalf of others. Suppose I am doing a study on migration from rural areas to the urban areas, and I decided to identify a certain rural pocket to go and locate my study in and I knock on a certain house to collect responses regarding migration, but the members of the household might have migrated or might not be present on the day of the survey. And if I am taking the responses about them from their neighbor, then it might amount to a lot of error. And this is an often-committed error by researchers going to the field and collecting field data. So, often biases may be introduced by the researched themselves.

Similarly, there may be bias introduced by the research process. Unintentional bias could be availability of accurate sample frame or imperfect access to data. For example, when we are referring to secondary data sources, often there is a lot of missing data, or when we are combining different data sets, in the Indian context, for example, we have large sample databases, the National Samples Survey Organization, we also have census databases, the Indian census data, we have various other data coming from National Family Health Survey. And if we are trying to combine all of these data to come up with a big picture, but since the sample sizes are different in all of these databases, we should be able to know when and how to combine these databases or whether or not these databases can be combined to come up with a big picture. Therefore, availability of accurate sample frame or imperfect access to data might also result in unintentional biases.

Often in questionnaires a bias is introduced with the research process because of the interviewers' influence on the respondents. The interviewers might ask leading questions to the respondents, which might then colour the data that we get from the respondent and therefore this also results in a deliberate bias. So, these are the possible types of biases in Development Studies research, which must be kept in check to ensure that there is rigour in Development Studies.

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Data mining

Data mining in primary methods	Data mining in secondary methods
Sample chosen to support the researcher's position	Data source is chosen to support the research question and hypotheses
Research instruments written to support the researcher's position	Data is rejected if they are inconsistent with the research questions and hypotheses
Data interpreted to support the researcher's position	Data cleaning – data unacceptable to the researcher's position are rejected

Another issue with regard to data mining. Data mining in primary methods, and data mining in secondary methods. Data mining is essentially biased because in that the conclusions have been predetermined, and the researcher looks for evidence to support them. On the other hand, research that seeks to be unbiased starts with a research problem and gathers evidence in order to lead the investigators to conclusions. So, in the case of primary methods, data mining could take the form of sample being chosen to support the researchers' position or deliberate attempt at choosing a particular sample to support the researchers' position. Research instruments may be written to support the researchers' position, data may be interpreted such to support the researchers' position. The researcher himself or herself is coming from a certain paradigmatic consideration or certain ideological considerations and therefore, data mining in primary methods take place. Data mining in secondary methods also may take place. How data sources may be chosen to support the research question and hypothesis, data is rejected if they are

inconsistent with research questions and hypothesis and data cleaning or data is unacceptable to the researchers' position are rejected. So, these are certain things to be kept in mind.

The third issue with regard to subjectivity and bias is the relation between data and research questions. Now complementing the concept of data mining is the unselective assembly of large quantities of data without any clear notion of what the data represent or their relation to a research problem or questions. Now, while this approach cannot necessarily be associated with allegations of bias, in an extreme form it is certainly unsystematic and is lacking in rigour. So, another form of research which lacks a systematic approach and rigour is the unselective and unfocused running of large numbers of regressions, without any direct relationship to research questions and hypothesis, and often looking for a good statistical fit without any notion of behavioral relationships. This is something that many quantitative studies are subjected to. We just run a series of regressions and whichever regression seems to be a best fit, is taken up without ensuring that there is any notion of behavioral relationship between the determinants that are being studied.

Lastly, there is reason to focus a lot on understanding the data. The problem here is represented by visiting researchers who visit a country for a few weeks or even a few days and gather large quantities of mostly secondary data without due acknowledgement to the efforts of local statisticians and researchers, who have been wholly or partially responsible for assembling and collecting the data. And also, without due understanding of or regard to the limitations of the data and without a clear set of research questions and hypothesis to which the data might relate. So, another category might be the researchers who only use databanks increasingly available from the internet, the various websites or plugging in unselectively without due regard to what the data represent or how they were collected. So, these are some of the sources from which subjectivity and bias may enter into Development Studies research and which needs to be kept in mind to ensure that we maintain rigour in development research.

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Limitations of Development Studies Research

- Limitations in primary methods
- Secondary data bias
- Language and other barriers
- Policy agenda and Monopolization of knowledge

Now, let us come to what are the, this is the last part of the lecture. Let us look at what are the limitations of Development Studies research- the limitations in primary methods, secondary data bias, language and other barriers, and the policy agenda and monopolization of knowledge. Now, some of these apply to research in industrialized countries as well as developing countries but not necessarily to the same extent or in the same way. For example, an interviewer with an upper-class English accent may get an unsympathetic response from a working-class respondent. So, it is important to keep the limitations of DS research in mind.

Now, in developing countries' settings, primary methods such as interviews, focus group discussions, questionnaires and observation may lack reliability and validity due to under reporting and recall difficulties or to concern over the use of information collected from respondents. So interviewer influence may be exacerbated by inhibitions and perceptions created by the interviewer-researched, such as questions, questioner's accent, questioner's class, cast, age, sex, often, you know, often female interviewers might find difficulty in having access to places where females in general are not allowed to within a certain context or appearance.

Local socio-cultural factors may also influence responses. household heads or village leaders may answer on behalf of the respondents who are actually being targeted. Often when we are carrying out, let us say, perception study, or perceptions of school going children in different local contexts, we would see adults responding on behalf of children. Similarly, if we are carrying out studies with respect to women's responses or women's perceptions regarding the

local setting or women's empowerment issues and if we find the male heads answering or responding on behalf of the women themselves, then that leads to a lot of bias and error in the research itself. So, responses may be influenced by culture, by who is presented the interview, or what the respondent thinks the interviewer wishes to hear.

Language barriers- research undertaken in languages which are unfamiliar to the researcher or to the researched also create a set of issues. Received and intended meaning may differ and there may be much meaning which is hidden or lost in translation. And it is impossible for researchers to learn all relevant local dialects while carrying out research. So, this becomes an inherent limitation or barrier when conducting development research.

Secondary data biases have already been pointed out and secondary data and official documents which are major sources of much Development Studies research, there is a number of issues relating to bias. Secondary data is the end product of a lengthy social process, which at every stage is shaped by the bias of the agents involved in the creation of the secondary data. Lastly, there is an important issue with regard to policy agenda and monopolization of knowledge and this also becomes a serious limitation of Development Studies research. DS research, for example, draws heavily on secondary documents as we all know, and much development research is undertaken in-house or is commissioned by organizations with the direct aim of informing specific policy options.

Now, when we are carrying out such in-house or commissioned research, this can be viewed alongside any academic research relating to similar policy or policy issues or similar topics, and some of which may be funded by the same organizations which undertake in-house research or commission external bodies to undertake specific research projects. Now, these organizations inevitably have specific policy agendas, even when they might aim to fund research on purely academy criteria. And the results of commissioned research or sometimes subject to intellectual property restrictions, because the results may be regarded as being owned by the commissioned agency. So, to that extent, the knowledge is itself becoming a crucial basis of development. And the monopolization of knowledge on development by agencies such as the World Bank or the International Monetary Fund is found to be highly contentious.

So, these are some of the things that needs to be kept in mind when we are focusing on rigour in Development Studies. One is to understand the research process properly to ensure that there is robustness in the research process, the research design has been robustly brought about. And of course, there is a lot of focus on ensuring that biases in the studies have been checked. And keeping in mind that in spite of our best efforts, there are limitations of Development Studies research. So, let me end this week's lessons on development research method with a very quick overview of what we have done this week.

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Summarizing week 1 lessons

Lesson 1: Reflections on Development Studies & Development Research

1. Characteristic features of DS/Scope of DS
2. Distinction between academics and practitioners of DS
3. *Doing* development research

Lesson 2: Types, Forms and Processes of Development Studies Research

1. Types of DS
2. Purpose, goals and focus of research in DS
3. Possible research methods combinations in DS

Lesson 3: The *rigour* in Development Studies Research

1. Rigour in DS
2. Doing rigorous research in DS
3. Assessing quality of research

In lesson one of this week, we began with reflections on Development Studies and development research. I introduced to you the subject of Development Studies, who are the actors in Development Studies, who is interested in Development Studies, which are those social sciences which contribute heavily to Development Studies. In that we looked at the scope of Development Studies.

We also made a distinction between Development Studies and doing development research, so the focus was on academics and practitioners of Development Studies, who are the academics in Development Studies, and what are the objectives of practitioners in Development Studies. And the role of different agencies when we are looking at development research. We also looked at doing development research wherein the focus was on what are the things to keep in mind when

we are looking at applied development research, and one of the things that came out clearly from lesson one of this week was that Development Studies research focuses a lot on the applied aspects of social policy research.

In lesson two, the focus was on types, forms and processes of Development Studies research. Here, we looked at various types of Development Studies- descriptive studies, explanatory studies, we also focused on action-oriented research kinds of studies, advocacy studies and also at the possible research methods, combinations in Development Studies. This lesson gave simply an overview of these different kinds of studies. And we also saw that there is a continuum with regard to qualitative and quantitative research methods. Of course, in the succeeding classes, we will be devoting singular classes to introducing you to qualitative research methods and quantitative research methods and so on.

In the final lesson of this week, we focused on the rigour in Development Studies research or understanding what is rigour in Development Studies, doing rigorous research in Development Studies and lastly, assessing the quality of research or the quality of rigour in Development Studies research.

So, I will end today's class with this. I will see you in the next week. Thank you