

Development Research Methods
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Paradigms of Development Research

Hello and welcome to week 2 of the NPTEL MOOC's course on development research methods. In today's lesson, we will study about the paradigms of development research or what has otherwise been also known as different worldviews or philosophical worldviews of development research. In standard research framework, we also refer to paradigms as theoretical constructs or conceptual frameworks, which is one of the first steps that we enter into before beginning academic research or development work research.

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What we will cover in today's lecture

1. What are research paradigms/philosophical worldviews?
2. Are the different research paradigms in conflict with each other?
3. Do research paradigm inform research methods, and if so, in what way?
4. Way forward from research paradigms

So, what we will cover in today's lesson is as follows; We will first look at what are research paradigms and philosophical worldviews. We will then look at, are the different research

paradigms in conflict with each other, do research paradigm inform research methods and if so, in what way, and what is the way forward from research paradigms.

By now, we know that research can be defined as a systematic investigation or inquiry into a social phenomenon or a development project, whereby data collected, analyzed, and interpreted so as to inform the development problem that is being studied. Many scholars are of the opinion that it was relatively simple to define research 30 or 40 years ago than it is now. Defining research has become complex, because of the dynamic ways in which research methods are increasing on a daily basis. And therefore, more often than not the exact nature of definition of research is influenced by the researcher's theoretical or conceptual framework.

So, a theory is used to establish relationships between or among constructs that describe or explain a phenomenon by going beyond the local event and trying to connect it with similar events. Now this theoretical framework or conceptual framework is basically distinct from a theory and is sometimes referred to as a paradigm that influences the way knowledge is to be understood and the way knowledge is to be studied.

It is the choice of paradigm that sets down the intent, motivation, and expectations from the research. So, without nominating a paradigm as the first step, there is no basis for subsequent choices regarding methodology, methods, literatures, or the research design that is being adopted for a study. Now loosely put, the term paradigm may be defined as a collection of logically related assumptions, concepts, or propositions that orient thinking and research or the philosophical intent or motivation for undertaking the study.

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Philosophical Worldviews

- *World view* means “a basic set of beliefs that guide action”.
- Many terminologies: *paradigms, epistemologies and ontologies* or *broadly conceived research methodologies*.
- Worldviews as a general philosophical orientation about the world and the nature of research that a researcher brings to a study.
- Worldviews arise based on discipline orientations, students' advisors/mentors inclinations, and past research experiences.
- The types of beliefs held by individual researchers based on these factors will often lead to embracing a qualitative, quantitative, or mixed methods approach in their research.
- Four philosophical world views that are widely discussed in the literature:
 - postpositivism,
 - constructivism,
 - transformative, and
 - pragmatism.

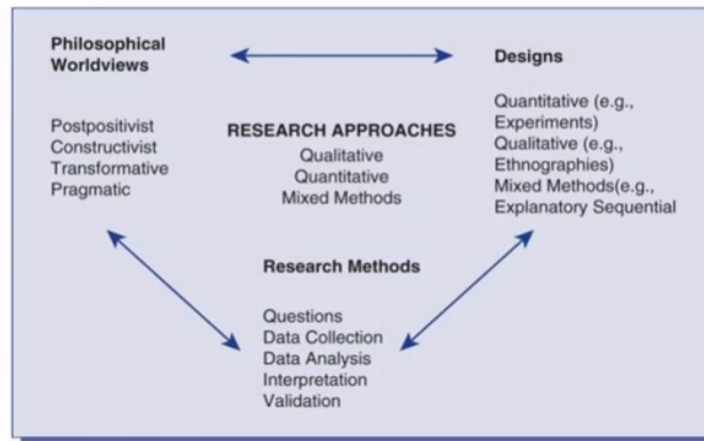
As I have already pointed out, paradigms are also referred to as philosophical worldviews. And the term worldview is basically set to mean a basic set of beliefs that guide action. Many people have also used other terminologies for paradigms, they refer it to as the epistemologies and ontologies or broadly conceived research methodologies. Worldviews is also looked at as a general philosophical orientation about the world and the nature of research that the researcher belongs to study.

It is also noticed that worldviews arise based on discipline orientations depending upon the discipline that the researcher comes from, whether the researcher comes from a basic orientation of economics or sociology or psychology, worldviews also arise. It is largely influenced by student's advisors, mentors, inclinations, and past research experiences. And the types of beliefs held by individual researchers based on these factors often lead to embracing the qualitative, quantitative or mixed methods approach in their research.

Now in the larger literature on development research and development studies, various kinds of philosophical worldviews have been discussed. However, the 4 major worldviews which find a pride of place in most research methodology literature are as follows; positivism or post-positivism, constructivism or interpretivism, transformative, and pragmatism. And these are the 4 worldviews that we will focus on for our lesson today.

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A Framework for Research—The Interconnection of Worldviews, Design, and Research Methods



Now, if we have to look in terms of a framework for research, we now know that there is an interconnection of worldviews, design, and research methods. If you look at the diagram, which is showing on your slide now, on the left we begin with philosophical worldviews first, and going by the 4 major worldviews that I have just highlighted. These worldviews inform the different kinds of research approaches that we might adopt for the research design that we are trying to carry out. It also informs the various kinds of research methods based upon the research approaches that we have taken up. But you would see that the arrows go both ways, which means that after taking up the research methods based upon a philosophical worldview, often it happens that the analysis and the conclusions that we arrive at based upon the research approaches and the research methods also may go on to inform the philosophical worldview with which we began or research from.

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The Postpositivist Worldview

- The postpositivist assumptions have represented the traditional form of research, and these assumptions hold true more for quantitative research than qualitative research.
- Sometimes called the scientific method, or *doing science research*. Also called positivist/postpositivist research, empirical science, and postpositivism.
- Postpositivists hold a deterministic philosophy in which causes (probably) determine effects or outcomes.
- It is reductionistic in its approach.
- Based on careful observation and measurement of the objective reality that exists "out there" in the world.
- The accepted approach to research by postpositivists begins with a theory, collects data that either supports or refutes the theory, and then makes necessary revisions and conducts additional tests.

Now, let us look at all of these worldviews one after the other, beginning with the post-positivist worldview. Now, the post-positivist assumption have represented the traditional form of research and these assumptions hold true more for quantitative research than qualitative research. And this worldview is sometimes called the scientific method or doing science research. It is also called positivist, post-positivist, empirical science and post-positivism and so on.

This last term post-positivism is called so because it represents the thinking after positivism, challenging the traditional notion of the absolute truth of knowledge and recognizing that we cannot be positive about our claims of knowledge when studying the behavior and actions of humans. Post-positivists hold a very deterministic philosophy, which says that the causes probably determine effects or outcomes, such as found in experiments or quasi-experiments carried out in the form of quantitative methods. Post-positivists also feel that research is mostly reductionist in that the intent of researchers to reduce ideas into a small, discrete set to test such as the variables that comprise hypothesis and research questions.

The knowledge that develop through a post-positivist lens is based on careful observation and measurement of the objective reality that exists out there in the world. Thus developing numeric measures of observations and studying the behavior of individuals becomes of paramount importance for a positivist and the post-positivist. The positivist and the post-positivist feel that there are laws or theories that govern the world. And these laws and theories need to be tested or verified, and refined so that we can understand the world better. So, in the scientific method, the

accepted approach to research by post-positivist is that a researcher begins with a theory. They collect data that either supports or refutes the theory and then they make necessary revision and conduct additional tests. Now, there are some of the key assumptions of this post-positivist position and that is a useful thing to keep in mind when looking at research guided by post-positivist worldview.

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Positivist/postpositivist assumptions

1. Knowledge is conjectural
2. Research is the process of making claims
3. Data, evidence and rational considerations shape knowledge
4. Research seeks to develop relevant, true statements
5. Being objective is an essential aspect of competent inquiry

These are some of the assumptions that are the basis of positivist worldview. The first assumption is that knowledge is conjectural, you can at best make conjectures. Another term which is used for this is called anti-foundational, which means that absolute truth can never be found. Thus evidence established in research is always imperfect and infallible, and it is for this reason that researchers in following the positivist tradition did not go to reject the hypothesis outrightly. But they indicate a failure to reject the hypothesis. Therefore, knowledge is conjectural.

The second assumption is that research is the process of making claims and then refining or abandoning some of them for other claims. Claims that are more strongly warranted. So, most quantitative research for example, starts with a test of a theory or testing of a hypothesis. The third assumption is that data evidence and rational consideration shape knowledge in practice. The researcher collects information on instruments based on measures completed by the participants or based upon observations recorded by the researcher. The fourth assumption is that

following the post-positivist tradition, it is said that research seeks to develop relevant true statements, ones that can serve to explain the situation of concern or that describe the causal relationship of interest. In quantitative studies researchers advance the relationship among variables and pose this in terms of questions or hypothesis.

And finally, the final assumption of the positivists being objective is an essential aspect of competitive inquiry, there is no scope for subjectivity. Therefore, the approach is highly objective. Researchers need to examine methods and come to conclusions without bias. For example, standard of validity and reliability are important in quantitative research methods, which rely upon the positivist and the post-positivist tradition.

The constructivist worldview is the second worldview, or which is also referred to as interpretivism, or the interpretivist worldview stands in opposition to the positivist worldview.

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The Constructivist Worldview

- Often combined with interpretivism. Typically seen as an approach to qualitative research.
- Individuals develop subjective meanings of their experiences—meanings directed toward certain objects or things.
- The goal of the research is to rely as much as possible on the participants' views of the situation being studied.
- Focus on the specific contexts in which people live and work in order to understand the historical and cultural settings of the participants.
- The researcher's intent is to make sense of (or interpret) the meanings others have about the world.
- Rather than starting with a theory (as in postpositivism), inquirers generate or inductively develop a theory or pattern of meaning.

Constructivism or social constructivism which is how it is often called and combined with interpretivism is a perspective, which is typically seen as an approach to qualitative research. Social constructivists, they believe that individuals seek understanding of the world in which they live and work. An individual develops subjective meaning of their experiences, meanings are directed towards certain objects or things. And these meanings are varied and multiple, leading the researcher to look for the complexity of views rather than narrowing meanings into a

few categories or indicators as done by the post-positivist following the quantitative tradition. So, the goal of research based upon social constructivist is to rely as much as possible on the participants views of the situation being studied.

And the questions become broad and general so that the participants can construct the meaning of a situation typically forged in discussions or interactions with other persons. And the constructivist-interpretivist believe in having more open-ended questions because they think the more open-ended the questioning the better, as the researcher listens carefully to what people say or do in their life settings. And often these subjective meanings are negotiated socially and historically. They are not simply imprinted on individuals but are formed through in interaction with others, and hence interpretivism or constructivism, and true historical and cultural norms that operate in individual's lives. So, constructivist researchers often address the process of interaction among individuals. They also focus on the specific context in which people live and work in order to understand the historical and cultural settings of the participants.

And researchers recognize that their own backgrounds can also shape their interpretation of the research that is being undertaken. And therefore, there is a weight placed on the insider view, insider meaning the researcher who is conducting the research, their views also matter a lot with regard to the qualitative interpretation. So, the researcher positions themselves in the research to acknowledge how their interpretation flows from their personal, cultural, and historical experiences. And the researcher's intent is to make sense or interpret the meanings others have about the world. Rather than starting with the theory as in post-positivism, inquirers of social constructivist tradition generate or inductively develop a pattern or theory of pattern or providing a theory or pattern of meaning.

Now, various scholars following the social constructivist view have also come up with several assumptions, and it is useful to look at some of the constructivist assumptions they are as follows.

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Constructivist's assumptions

1. Human beings construct meanings as they engage with the world
2. Humans engage with their world and make sense of it based on their historical and social perspectives
3. The basic generation of meaning is always social, arising in and out of interaction with a human community

The first assumption following the constructivist view is that human beings construct meanings as they engage with the world they are interpreting. And qualitative researchers tend to use open ended questions so that the participants can share their views therefore. The second assumption is that humans engage with their world and make sense of it based on their historical and social perspectives. We are all born into a world of meaning bestowed upon us by our culture. So, the meaning that we attach to objects, the meaning that we attach to practices in our social surrounding is largely a function of the cultural setting within which we adapt ourselves to. Therefore, qualitative researchers seek to understand the context or setting of the participants through visiting this context and gathering information personally. They also interpret what they find- an interpretation shaped by the researchers own experience and background. Thirdly, the basic generation of meaning as far as social constructivist view is, it is always social arising in and out of interaction with the human community. Therefore, the process of qualitative research is largely inductive, and the inquirer generates meaning from the data collected in the field.

Mostly in the field of academic research in Development Studies, we find quantitative purists and qualitative purists. And the ideas posited by the quantitative purists and the qualitative purists are all are usually always in conflict with each other. And therefore, there are situations where it leads to paradigm wars or paradigm conflicts, and a lot of debate goes on with regard to the reliability and validity of the data emanating based upon positivistic tradition and the social

constructivist tradition. We will look at some of these conflicts and why these conflicts arise and how these conflicts have been dealt with by researchers in the recent times in some time.

The third world view that finds a lot of mention in application-oriented development research, particularly in the fields of development work and development studies, which look towards more of application in development projects is the transformative worldview.

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The Transformative Worldview (also advocacy and participatory)

- Arose during the 1980s and 1990s against the idea that the postpositivist assumptions imposed structural laws and theories that did not fit marginalized individuals in our society.
- It holds that research inquiry needs to be intertwined with politics and a political change agenda to confront social oppression at whatever levels it occurs.
- Contains an action agenda for reform that may change lives of the participants, the institutions in which individuals work or live, and the researcher's life.
- Focuses on the needs of groups and individuals in our society that may be marginalized or disenfranchised.
- Theoretical perspectives may be integrated with the philosophical assumptions that construct a picture of the issues being examined.
- The research in the transformative worldview links political and social action to these inequities.

It is also referred to as the advocacy and the participatory worldview. Now these group of researchers, they hold to the philosophical assumptions of the transformative approach. And this position arose mostly during the 1980's and the 1990's, from individuals who felt that the post-positivist assumptions imposed structural laws and theories that did not fit the marginalized individuals in our society. Because of issues of power and social justice, discrimination, oppression, and these issues needed to be addressed, therefore, the overall theoretical frameworks provided by the social constructivist or the positivist approach did not fit into the notion of the marginalized peoples of the world. And interestingly, there is no uniform body of literature characterizing this worldview, transformative worldview, but it includes groups of researchers that can be clubbed under the category of critical theorists. So, we are talking about participatory action researchers, Marxist, feminists, racial and ethnic minorities, persons with

disabilities, indigenous and post-colonial peoples and members of the lesbian, gay, bisexual, transsexual, and queer communities.

It is also important to note here that a transformative worldview holds that research inquiry needs to be intertwined with politics, and a political change agenda to confront social oppression at whatever level it occurs. So, the research contains an action agenda for reform that may change lives of the participants, the institutions in which individuals work or live, and the researcher's life. Specific issues need to be addressed that speak to important social issues of the day- issues such as empowerment, inequality, oppression, suppression, domination, alienation, and so on. So, the researcher often begins with one of these issues of the focal point of study when adopting the transformative approach.

The research also assumes that the Inquirer will proceed collaboratively with the participants so as not to alienate or marginalize the participants further as a result of the enquiry. In this sense, the participants may help design questions. By participants here we mean the subjects that are being studied, become collaborators in research. And after undergoing periods of immersion in the field, the participants themselves inform the researcher regarding the research questions, the research problem that needs to be studied to collect data, analyze information or reap the rewards of the research.

So, transformative research provides a voice for these participants, raising their consciousness or advancing an agenda for change to improve their lives and it becomes a united voice for reform and change. To give an example of transformative research, various forms of development practice research that takes place on the field follows the transformative research worldview. For example, a researcher goes to the field to collect information about gender division of labour with regard to lack of water in a certain rural area. And so, in this case, instead of having a notion of researcher already having a notion of how the participants behave with regard to this notion of gender division of labour with regard to water collection, the researcher goes to the field, immerses herself in the field with the participants and the participants here are the people themselves who undergo the task of collecting water. And then here the researcher and the researched become collaborators. And they interact with each other and the research problem is highlighted by the researched. So, therefore, the research problems are highlighted by the

researched and then through the process of interaction, some kind of an agenda of change is also designed by the collaborators themselves.

So, this philosophical worldview, the transformative worldview focuses on the needs of groups and individuals in a society that may be marginalized or disenfranchised. Therefore, theoretical perspectives may be integrated with the philosophical assumptions that construct a picture of the issues being examined, the people to be studied, and the changes that are needed such as feminist perspectives, racialized discourses, critical theory, and so on.

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So what does transformative paradigm focus on?


1. In studying these diverse groups, the research focuses on inequities based on gender, race, ethnicity, disability, sexual orientation, and socioeconomic class that result in asymmetric power relationships.
2. The research in the transformative worldview links political and social action to these inequities.
3. Transformative research uses a program theory of beliefs about how a program works and why the problems of oppression, domination, and power relationships exist.

So, what does a transformative paradigm focus on? If we have to summarize some of the important focus areas of the transformative paradigms, they are as follows. Number one, it places central importance on the study of lives and experiences of diverse groups that have traditionally been marginalized. Of special interests for these diverse groups is how their lives have been constrained by the oppressors and the strategies they used to resist, challenge and subvert these constraints.

Second of all in studying these diverse groups, the research focuses on inequities based on gender, race, ethnicity, disability, sexual orientation, and socio-economic classes that result in asymmetric power relationships. The research in the transformative worldview definitely links political and social action to these inequities. And transformative research uses a program theory

of beliefs about how our program works and why the problems of oppression, domination and power relationships exist. Therefore, the transformative worldview ultimately leads towards some kind of an action agenda or it decides upon an action agenda within the research framework, such that by the end of the research project, some amount of transformation has already taken place.

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The Pragmatic Worldview

- Pragmatism as a worldview arises out of actions, situations, and consequences rather than antecedent conditions
- Instead of focusing on methods, researchers emphasize the research problem and use all approaches available to understand the problem.
- Its importance lies as it focuses attention on the research problem in social science research and then using pluralistic approaches to derive knowledge about the problem.
- Pragmatism provides a philosophical basis for research: Pragmatism is not committed to any one system of philosophy and reality.

The final worldview that needs discussion is the pragmatic worldview. And this is also the philosophy which informs development research methods in its practice-oriented forms. And this worldview comes from groups of researchers who call themselves as pragmatists. And there are many forms of this philosophy but for many, pragmatism as a worldview arises out of actions, situations, and consequences rather than antecedent conditions as in the case of post-positivism or the post-positivists.

There is a concern with applications, with regard to what works and what solutions to arrive at. Instead of focusing on methods, researchers following the pragmatism viewpoint focus on the research problem, rather than on a theoretical constructor or a conceptual framework. So, they come up with various approaches available to understand the research problem first. So, in that sense, pragmatism is not committed to any one system of philosophy and reality. And this applies to mixed methods research and therefore they do not stick themselves to either the

quantitative purists or the qualitative purists, because depending upon the research problem at hand, they decide whether they want to take a quantitative research methods or qualitative research methods or mix both of these research methods concurrently or sequentially.

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Pragmatism: A Philosophical Basis for Research and its Relevance

1. Pragmatism is not committed to any one system of philosophy and reality.
2. Individual researchers have a freedom of choice.
3. Pragmatists do not see the world as an absolute unity.
4. The pragmatist researchers look to the *what* and *how* to research based on the intended consequences—where they want to go with it.
5. Pragmatists agree that research always occurs in social, historical, political, and other contexts.
6. Pragmatists have believed in an external world independent of the mind as well as that lodged in the mind.

So, this applies to mixed methods research in that inquirers draw liberally from both quantitative and qualitative assumptions when they engage in these kinds of research. The second point is that individual researchers following the pragmatism worldview have a freedom of choice. So, researchers are free to choose the methods, techniques, and procedures of research that best meets their needs and purposes. Thirdly, pragmatists do not see the world as one absolute unity. In a similar way, mixed methods researchers also look to many approaches for collecting and analyzing data, rather than subscribing to only one way that is the quantitative way or the qualitative way. They are open to looking up various forms of methods of analysis to arrive at the research problem that is being studied.

The pragmatists, the researchers look to what and how research based on the intended consequences, where they want to go with it, and mixed methods researchers need to establish a purpose for their mixing, a rationale for the reasons why quantitative and qualitative data need to be mixed in the first place. Pragmatists also agree that research always occurs in social,

historical, political and other contexts. And they believe in an external world independent of the mind as well as that lodged in the mind.

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Four Worldviews

<u>Postpositivism</u> <ul style="list-style-type: none">• Determination• Reductionism• Empirical observation and measurement• Theory verification	<u>Constructivism</u> <ul style="list-style-type: none">• Understanding• Multiple participant meanings• Social and historical construction• Theory generation
<u>Transformative</u> <ul style="list-style-type: none">• Political• Power and justice oriented• Collaborative• Change-oriented	<u>Pragmatism</u> <ul style="list-style-type: none">• Consequences of actions• Problem-centered• Pluralistic• Real-world practice oriented

So, this is a summary view of all the 4 worldviews that we have just studied. The post-positivists, constructivists, transformative and pragmatists. So, in a nutshell, the post-positivists are seeking the objective reality. So therefore, their focus is on determination, reductionism, empirical observation, and measurement, theory verification. Constructivist focus on understanding multiple participant meanings, social and historical construction, theory regeneration. Transformatives focus, they focus more on political and social realities, power and justice-oriented systems. They believe in collaborative research between the researcher and the researched and they have a change-oriented agenda or there is an action agenda in the transformative paradigm that they are taking up. Pragmatism as a paradigm focuses more on problems. It is more problem centered, and therefore focuses a lot on the consequences of the actions. The different kinds of research methods that are adopted by the pragmatists are pluralistic in nature, and it is a real-world practice-oriented form of worldview.

So, within the larger domain of development studies and development work research, positivist and constructivist adhere or cater more to the needs of the academics or academicians, whereas the transformative and pragmatists focus more towards the needs of development practitioners.

However, when we are looking at more interdisciplinary and multidisciplinary ways of doing research, we have moved to a place in research methods where different worldviews are being used collaboratively and combined to come up with better results.

Now, given that there are these four broad worldviews that are considered for development research, there is a certain language which also gets commonly associated with these major research paradigms. And the language that gets associated with these research paradigms mostly follows the research methods framework. So, for example, in the positivists or the post-positivist paradigm, the language uses that of experimental, quasi-experimental, correlational, reductionism, theory verification, causal comparative, determination and so on. So, which means that it is more quantitative, it moves more towards the quantitative axis.

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Language commonly associated with major research paradigms

Positivist/ Postpositivist	Interpretivist/ Constructivist	Transformative	Pragmatic
Experimental	Naturalistic	Critical theory	Consequences of actions
Quasi-experimental	Phenomenological	Neo-marxist	Problem-centered
Correlational	Hermeneutic	Feminist	Pluralistic
Reductionism	Interpretivist	Critical Race Theory	Real-world practice oriented
Theory verification	Ethnographic	Freirian	Mixed models
Causal Comparative	Multiple participant meanings	Participatory	
Determination	Social and historical construction	Emancipatory	
Normative	Theory generation	Advocacy	
		Grand Narrative	
		Empowerment	
		issue oriented	
		Change-oriented	
		Queer theory	
		Race specific	
		Political	

Interpretivist-constructivist language follows naturalistic, phenomenology, hermeneutics, ethnographic, multiple participant meanings, social and historical construction to theory generation and so on. That language used with a transformative leans towards critical theory, neo-Marxist, feminist, critical race theory, participatory, emancipatory, advocacy, grand narratives, empowerment issue oriented, change-oriented and so on. Pragmatist's language which is commonly associated as consequences of action, problem centered, pluralistic, mixed methods models of doing research, real-world practice oriented.

Now, these languages that commonly associated with these research paradigms has been worked upon by various scholars taking from the research materials that are coming up and this language association with different research paradigms is based upon a systematic review of literature carried on by various scholars which are shown on the slide here.

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Paradigms, methods and tools		
Paradigm	Methods (primarily)	Data collection tools (examples)
Positivist/ Postpositivist	Quantitative. "Although qualitative methods can be used within this paradigm, quantitative methods tend to be predominant"	Experiments Quasi-experiments Tests Scales
Interpretivist/ Constructivist	Qualitative methods predominate although quantitative methods may also be utilized	Interviews Observations Document reviews Visual data analysis
Transformative	Qualitative methods with quantitative and mixed methods	Diverse range of tools – particular need to avoid discrimination. Eg. sexism, racism, and homophobia
Pragmatic	Qualitative and/or quantitative methods may be employed. Methods are matched to the specific questions and purpose of the research	May include tools from both positivist and interpretivist paradigms. Eg. interviews, observations and testing and experiments

The research paradigms also inform the methods and the tools and I have already made an indication to this in the earlier slides. This is a neater tabulation of how the paradigms inform the methods and the tools. So, positivist method is quantitative. They also use some qualitative methods within the paradigm but the most dominant methods are quantitative methods and the data collection tools examples are experiments, quasi experiments, tests and scales.

Interpretivist is largely use qualitative methods. However, they may also use some quantitative methods. And the data collection tools are interviews, observations, document reviews, visual data analysis. Transformatives use a combination of both qualitative and quantitative or mixed methods and they have a diverse range of tools. They particularly need to avoid discrimination when they are conducting research, for example, that of sexism, racism, and homophobia, pragmatists follow the methods of qualitative or quantitative methods again mixed methods. Their methods are matched to the specific questions and purpose of the research. And they also may include tools from both positivist and interpretivist paradigms, example interviews,

observations, and testing and experiment. The thing to remember about the pragmatists is that pragmatics inform philosophy rather than starting from a philosophical worldview, which is why they start from a problem and then see whether after the using of methods and coming up with solutions of the problem, the entire research can provide a philosophical worldview to further research.

Now, let us come to the conflicts between different paradigms. I have already made a mention about quantitative purists and qualitative purists and that there are often conflicts between these different paradigms with regard to the types of research that is being carried out, the conclusions that is arrived at, and the interpretations that we give to these different kinds of research. And very often, we find that the interpretations provided to the conclusions that we are arriving at give a very different understanding or a different world view of how things happen, of how social phenomena are occurring and therefore there is an existence of paradigm wars.

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Paradigm Wars and Mixed Methodologies

- Paradigm wars emerged in social sciences and behavioral sciences.
- Models that are imitated within any given field, and that competing paradigms may exist simultaneously, especially within immature sciences.
- Debates about qualitative and quantitative research have roots in the mid 19th century and occurred in sociology in the 1920s and 1930s.
- Recent attention to the debate started with a revival of qualitative research methods in the 1960s in sociology and psychology.

And many groups of researchers such as the action-oriented researchers or the transformative groups and the pragmatic groups have therefore moved from the puritanism of the quantitative theorists and qualitative theorists and more towards mixed methods. So, paradigm wars emerged mostly in the social sciences and behavioral sciences, there are models that are imitated within any given field and competing paradigms exist simultaneously. Debates about qualitative and

quantitative research have roots in the mid nineteenth century and they occurred mostly in sociology in the 1920's and 1930's. And recent attention to the debates started with a revival of qualitative research methods in the 1960's in sociology and psychology.

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continued

- Sociology and psychology was dominated by quantitative methods (that is, survey or experiment) throughout the 1940s and 1950s.
- Positivist paradigm underlies quantitative methods, while the constructivist paradigm underlies qualitative methods. Also called qualitative-quantitative debate.
- Paradigm wars concern important conceptual issues, such as the "nature of reality" or "the possibility of causal linkages".

And if you look at the research of the 1940's and 1950's, sociology and psychology was largely dominated by quantitative methods- that is survey or experiment. And positive paradigm underlines quantitative methods while the constructivist paradigm underlines qualitative methods, also called qualitative-quantitative debate. And paradigm wars concerned important conceptual issues such as the nature of reality or the possibility of causal linkages. Whether the association that are being seen as part of a development problem that is being studied, whether there is a causal relationship between the determinants that we are seeing or it is simply an association, and how does one reach an interpretation of such realities? So, let us have a brief look at why the war of paradigms arose and what is the stance of the quantitative purists and the qualitative purists.

So, there are purists on both sides, on quantitative and qualitative.

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Purists on both sides: Quantitative and qualitative

Quantitative purists articulate assumptions consistent with 'positivist philosophy'.

- a) Social observations be treated as entities in much the same way as physical scientists treat physical phenomena.
- b) Observer is separate from the entities that are subject to observation.
- c) Social science inquiry should be objective.
- d) In other words, time and context-free generalizations are desirable and possible.
- e) Eliminate biases, remain emotionally detached and uninvolved with the objects of study
- f) Test or empirically justify stated hypotheses
- g) Rhetorical neutrality, involving a formal writing style using the impersonal passive voice and technical terminology, in which establishing and describing social laws is the major focus.

And as I have already mentioned, quantitative purists articulate assumptions consistent with the positivist philosophy or the post-positivist philosophy. Some of the major characteristics are as follows. They believe that social observations should be treated as entities in much the same way as physical scientists treat physical phenomena. And the observer is separate from the entities that are subject to observation. Therefore, there is an objective reality which is being inquired into or investigated into with respect to quantitative methods. Therefore, they say that social science inquiry should be objective like the natural sciences, in other words, time and context free generalizations are desirable and it is possible. And these time and context free generalizations will lead to elimination of biases, and therefore there is a need to remain emotionally detached and uninvolved with the objects of the study.

So for example, quantitative purists might not like a person belonging to a certain ethnicity, to go back to his or her own ethnic group and carry out a study because they believe that, that will bring in a lot of biases into the study and there is a need to keep his or her own biases away to be able to study the problem of the ethnic group more meaningfully.

And the quantitative purists emphasize on tests are empirically justified stated hypothesis. They believe in rhetorical neutrality involving a formal writing style using the impersonal passive voice and technical terminology, in which establishing and describing social laws is the major focus. Many research works carried out by psychologists and economists, mainstream

psychologists and mainstream economists mostly fall under the quantitative purist's positivist philosophy framework.

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Qualitative purists (also called *constructivists* and *interpretivists*) reject positivism.

- a) Multiple-constructed realities abound
- b) Time- and context-free generalizations are neither desirable nor possible
- c) Research is value-bound
- d) Impossible to differentiate fully causes and effects
- e) Logic flows from specific to general (i.e. explanations are generated inductively from data)
- f) Knower and known cannot be separated because the subjective knower is the only source of reality
- g) Dislike for detached and passive style of writing, preferring instead, detailed, rich, and thick (empathic) description, written directly and somewhat informally.

The qualitative purists reject positivism, because they believe that there are multiple constructed realities in the society. Given the subjects that we are studying, the participants that we are studying, there cannot be an objective reality, because reality is subjective and there are multiple constructed realities. They believe the time and context free generalizations are neither desirable nor possible and research is value bound. It is impossible to differentiate fully cause and effects and therefore, they look down upon the various kinds of positivist tools and techniques for carrying out research on social phenomena such as regression analysis. They believe that logic flows from specific to general and therefore, their explanations are generated inductively from the data. They also believe that the knower and the known cannot be separated because the subjective knower is the only source of reality. And there is a dislike for detached and passive style of writing preferring instead detailed, rich and thick description written directly and somewhat informally.

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Strengths and weaknesses of quantitative research

Strengths
Testing and validating already constructed theories about how (and to a lesser degree, why) phenomena occur
Testing hypothesis that are constructed before the data are collected. Can generalize research findings when the data are based on random samples of sufficient size
Can generalize a research finding when it has been replicated on many different populations and sub-populations
The researcher may construct a situation that eliminates the confounding influence of many variables, allowing one to more credibly assess cause-and-effect relationships
Relatively quick data collection methods and one that can provide precise, numerical data; data analysis is relatively less time consuming
May have higher credibility with many people in power (e.g. administrators, politicians, people who fund programs etc.)
Weaknesses
The researcher's categories/theories that are used may not reflect local constituencies' understanding
The researcher may miss out on phenomena occurring because of the focus on theory or hypothesis testing rather than on theory or hypothesis generation (called the confirmation bias)
Knowledge produced may be too abstract and general for direct application to specific local situations, contexts, and individuals

Let us summarize some of the strengths and weaknesses of quantitative research following the positivist tradition and similarly, the strengths and weaknesses of qualitative research following the social constructivist tradition. So, what are the strengths of quantitative research? First is a testing and validating already constructed theories about how and to a lesser degree why the phenomena occur. Testing hypotheses that are constructed before the data collected. They can lead to generalization of the research findings when the data based on random samples of sufficient size. So, we can get the big picture depending upon the generalizations that are arrived at by quantitative research. The researcher may construct a situation that eliminates the confounding influence of many variables allowing one to more credibly assess cause and effect relationships.

So, for example, if one is studying the issue of malnourishment in a certain community and if certain socio-economic determinants can be highlighted, so let us say for example, maternal education seems to have a positive correlation to nutrition outcomes. Then we can with a lot of reliability and validation, say that inform public policy that probably if the resources are gathered more towards improving maternal education, we can have better nutrition outcomes. So that is one of the advantages of carrying out the quantitative research following the positivist tradition. Relatively quick data collection methods and one that can provide precise numerical data analysis which is relatively less time consuming. Quantitative research methods, because it is based upon data can lead to removal of biases and provide research findings at a relatively lesser

period of time. It may have higher credibility with many people in power example administrators, politicians, people who fund programs etc.

The weaknesses are as follows. The researcher's categories or theories that are used may not reflect local constituencies' understanding. Usually we follow generic categories when we are carrying out quantitative research analysis and that may not represent the local view, given the cultural and the social context in which this research has been carried out. Similarly, researchers may miss out on phenomena occurring because of the focus on theory or hypothesis testing rather than on theory or hypothesis generation called the confirmation bias. And this is a very common bias or error that comes up in the case of quantitative research. Because the focus on generalization is so much that the context loses or the context gets hidden, when they are interpreting the results. Similarly, knowledge produced maybe too abstract in general for direct application to specific local situation context and individuals.

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Strengths and weaknesses of qualitative research

Strengths
Data are based on participants' own categories of meaning.
It is useful for studying a limited number of cases in depth.
It is useful for describing complex phenomena.
Provides individual case information.
Provides understanding and description of people's personal experiences of phenomena (i.e. the "emic" or insider's viewpoint).
The researcher can study dynamic processes (i.e. documenting sequential patterns and change).
The researcher can use the primarily qualitative method of "grounded theory" to generate inductively a tentative but explanatory theory about a phenomenon.
Weaknesses
Lack of generalisation
May have lower credibility with some administrators and commissioners of programs
Data analysis is often time consuming

The qualitative strengths and weaknesses are as follows. Strengths are of course, the data based on participants own categories of meaning and, when the data is based on participants own categories of meaning, interventions becomes much more meaningful. It informs public policies better with regard to where to intervene and how to intervene. It is useful for studying a limited number of cases in depth. It is useful with describing complex phenomena and it provides

individual case information. It also provides understanding and description of people's personal experiences of phenomena and the researcher can study dynamic processes. The researcher can also use a primarily qualitative method of grounded theory to generate inductively a tentative but explanatory theory about a phenomenon. So, meaning to say that qualitative theorists can come up with a more in-depth understanding of the limited case analysis that are being carried out.

The weaknesses are basically the positives of the positivist tradition or the quantitative methods. They lack generalizations. Generalizability becomes a problem with qualitative analysis. It may have lower credibility with administrators and commissioners of programs because we do not get the big picture. And data analysis is often time consuming because looking at people's interviews, and being able to come up with a proper analysis based upon the narratives takes a lot of time.

Now as a consequence of the paradigm wars emerging from the conflicts of the quantitative purists and the qualitative purists or the war of paradigms, there are a group of pacifists who state that qualitative and quantitative methods, instead of being contradictory to each other can actually be highly compatible.

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The End of the Paradigm Wars and the Emergence of Mixed Methods

- "Pacifists" state that qualitative and quantitative methods are compatible.
- In education and evaluation research, authors have presented the compatibility thesis based on a different paradigm called *pragmatism*.
- Most researchers now use whatever method is appropriate for their studies.
- Pragmatically oriented theorists and researchers refer to "mixed methods" which contain elements of both the quantitative and qualitative approaches.
- Pragmatist orientation has superseded the paradigm wars.
- Usage of generic terms such as 'mixed methods' connote several different ways of conducting a study or a series of studies.
- Mixed-up models- derives from the "lack of a worldview, paradigm, or theory for mixed-model studies".

So, they have pointed out that in education and evaluation research authors have presented the compatibility thesis based on a different paradigm called pragmatism. So, pragmatism or

pragmatic worldview, or pragmatism as a philosophical worldview provides the middle path for quantitative and qualitative purists. Most researchers now use whatever method is appropriate for their studies. And pragmatically oriented theorists and researchers often refer to mixed methods which contains elements of both the quantitative and qualitative approaches. And pragmatic orientation has superseded the paradigm wars. Therefore, instead of focusing a lot on theoretical constructs or conceptual frameworks, you begin studying a research problem and then expand the research problem further by understanding what are the different kinds of tools that are available and that can be used to study the problem further.

The usage of generic terms such as mixed methods connote several different ways of conducting a study or a series of study. So mixed methods, mixed up models or mixed method models derives from the lack of a worldview paradigm or theory for mixed model studies.

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A flow chart of how paradigms inform methods analysis

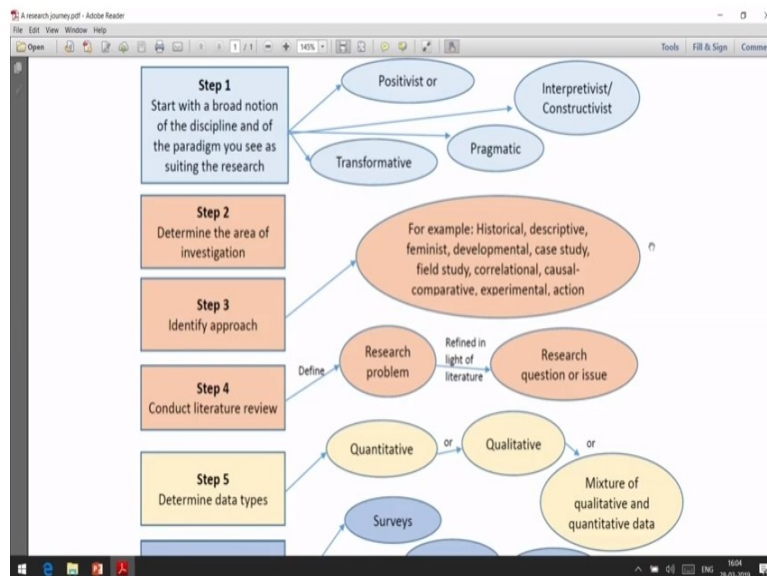
- Research projects rarely ever follow a neat linear path, however, the steps and decisions made by the researcher may look something like this.

• A RESEARCH JOURNEY

So, we have come to the end of today's lesson. What we have looked at so far now is that there are four different worldviews that we usually depend upon to carry out research in the field of development studies and development work. So, we began with the positivist or the post-positivist moving on to the social constructivist or the interpretivists, the transformative worldview and the pragmatist worldview.

On the one hand, we have paradigm wars between the quantitative and qualitative purists and on the other hand, we have middle paths being forged by the transformative worldview and the pragmatists worldview. But how do we go from there on? After we know that there is a worldview that we need to follow how does that define the different steps of research in the entire research design? Research projects rarely ever follow a neat linear path, but the steps and decisions made by the researcher may look something like this.

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I have shown this in the form of a flow chart here. So basically, we begin with step one, which start with a broad notion of the discipline and of the paradigm we see as suiting our research. So, we follow either the positivist, transformative, pragmatic or interpretivists paradigm. In steps 2, 3 and 4, can be carried out one after the other, in which, first we determine the area of investigation, we identify the approach for example, again taking the example of undernourishment or nutrition, whether we want to take a historical, descriptive, feminist, developmental, case study, field study, correlational, causal-comparative, experimental or action-what is the approach that we want to study?

If we are taking a positivist paradigm, then we may take a causal-comparative approach. If we want to take up a transformative paradigm, we may take a feminist approach. If we want to have an interpretivist-constructivist paradigm, the approach to take maybe highly descriptive.

Similarly, we take a pragmatic approach, we can have a mix of causal-comparative study, experimental study, we can also have a case study approach to understand the problem better.

Based upon the paradigm that we have chosen and the approaches that we have chosen, we can then conduct literature review- there will be one class entirely devoted to literature review on development research methods. But in this step, we understand the research problem further by defining it better. The research question and the issues that we want to take up is also refined in light of the literature.

In Step 5 we decide after having understood the paradigms and the approaches and the research questions that have been taken up, we determine at step 5, whether we want to take purely quantitative methods, qualitative methods, or we want to mix both of these methods. And based upon the decision that we are taking in step 5, we decide in step 6 regarding the kind of study that we want to take up, whether we want to take up surveys, we want to do hypothesis testing based upon a mathematical model or a statistical model based upon secondary data, whether we want to conduct structured or semi-structured interview, whether we want to carry out various kinds of experiments based upon survey data, whether we want to do a document analysis, we want to carry out more participant observations, focus group discussions and so on.

In step 5, depending upon the kind of paradigm and the research methods that we have taken up, we decide on the timeline, we develop or identify the data collection tools, we refine the data collection tools, determine who will collect data. So whether the data has to be collected by the researcher herself, or we involve a number of field enumerators or whether we need to collect data from if we are collecting secondary data sources then, whether we want to depend upon archival research, or we want to depend upon government records and so on. We trail the data collection tools.

The step 8 is obtaining the ethics approval for determining the type of research and where the data coming from, whether it is approved by the ethics committee of the of the agency which is carrying out the research. Then we look at data collection and then analyzing the data. And the final step is about writing up the findings and conclusions. And it is always advisable that before we write up the findings and conclusions of the final discussions, we will return to the literature

prior to step 11. So, we go back to step 4 before we come to the final step on step 11 for writing of the research.

These are the references that have been used for this lesson. For a comprehensive literature on the topics covered in this lecture, I also suggest that the students can go through the reference list of these cited papers. They are easily available online. And some of the books mentioned here also available online.

In the next class, we will be studying the development research development work continuum. And we will go into some details about the action research methodologies. And what is the philosophical worldview of action research, which I have already mentioned, is a transformative worldview, but what are the individual components of action research methods that can inform research and policy action.

See you in the next class. Thank you.