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NPTEL ONLINE CERIFICATION COURSE

Course
On
Education leadership

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Lecture 24: Education research and pedagogy (condt.)

Welcome dear so once again to this course on education leadership in the last class we are discussing about educational research and we are discussing about why it is so important in education setup and it is how it is related to pedagogy etc.

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So in that context we are discussing about some of the aspects of Education Nacelles how-to select the problem identify the problem etc now we will just for the continued the same topic like him how to select research question so always I always start with the first question like suppose even though we are overwhelmed fascinated by so many research topics ideas concepts etc but you know to convert it into research question is Avery difficult talk.

We may have so many burning ideas topics etcetera concert visitor but how to frame research question out of that there is the most challenging job so I mean and for that matter when we are selecting a research question we have to map it map it inters of selecting the resume writer research method in terms of the tools in the techniques in terms of the technical sample all kinds of things.

So what is the so or when we are framing the research question then we have to verify what are the choices available for studying this we first question for studying this research objective what are the choices available right now like whether experimental methods will be suitable for or not so it's what are the experimental methods available for us and all whether we should stick to any kind of qualitative method also maybe that for certain research questions qualitative methods are more appropriate and it can give us give us in depth ideas analysis etc.

Or maybe that it’s just any kind of you know or descriptive or narrative research where we meet to content analysis or archival research etcetera or maybe that we need to validate it too in terms obits external validity generalizabilityadaptability applications etc are there whether we should stick to the quantitative methods by adopting statistical question so always when we frame a research question we have to find out what that is what are the appropriate choices available for person in terms of selecting the right research method and from that which one we should select.

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So then again now the question is how to identify good research problems now this is a most challenging though so how to identify good research problem so the problem should state a relationship between variables so these are the basic or you can say basic principle for formulating the research problem that the problem should state a relation between variable for when we are selecting or identifying research problem then we have to also be very particular very clear about like this research problem it involves how many variables first of all how many variables over one day did we if impact on other variables - over thetilma involves two variable three variable four variable how many variables it involves and mean one thing is that.

It took them us with two variability at least two valuable and the problem should state that a kind of relationship exists between these two variables so right identifying the research problem we can we can select its it are the form of a research objective like OMA is that if the research objective of the purpose we can formulate it in terms of results but objective all we can also form on for many such questions.

So either it convener a statement in a statement we like a result objective or it can be any question format so it can be in question form as well for example what relation exists between two or more variables so in that format that will being here we can put the scale research goal or objective in terms of the question research question so similarly the do teachers competence comments cause improvement in students performance this is also the first question but you have

to validate whether it will be inauthentic research question or nota pentacle search problem or not can it be very simple.

So do teacher comments cause improvement in students performance it's a question it’s a question now we have to further analyze the whether it can be verified or not whether it can be validated or not then you similarly under what example is the research question under what conditions does learning take place and how to learn to transfer it to new situation let's say again is the question but is it possible is it feasible to verify some verify because it involves coming complexity.

So many is the complex relationship between general two three variables like one is that under what condition under what condition learning takes place and again under and how the learning how to learn again and learning how to task for this learning to the new situation so it involves many sub questions as well.

So that is why at the problem should be stated in a very clear and unambiguous form so when we are using the problem selecting a problem not only that it establishes so it so the kind of relationship between the one we do it into variable or three variable but those kind those relationships it should be very clear should be unambiguous that is any layman any man normal person or any non domain person can also understand what it actually asked.

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What it will want to verify so the problem should be stated in it very clear conspicuous and unambiguous format for example purpose of the study again purpose of the study may not be the problem on this may be that we our intention is to bring some reform for example in some situation our intention is to purpose is to or being certain to reform in the situation in the situation in the classroom etc.

But that purpose always cannot be research problem so having a goal selecting your goal setting the goal or setting having a purpose will not always be helpful in India in getting it good research problem so purpose of the study may not be the probe problem on this say even do we have specific goals some purposes and in educational context but these purposes goals may not be proven to be the good research problem.

Next is a scientific problem should contain implications forth testing let we logically are you know being fascinated by some of the concepts and ideas and philosophies model ways and then we should not select research problem but if you are selecting a research problem so it should be very much scientific it would involve logical thinking rational thinking and it must have some implications in terms of its in terms of its testing in terms of its you know improving the performance in terms of enhancing the effectiveness.

So a scientific problems with content implications for testing so not only that it should be able to be applicable it should have some implications or with some effect and some influence and application form of the situation but again those things can also be again further where it's

verified so scientifically if the problem is scientific then it can be validated it can be examined it can be very experimental again and again.

So scientific problem should content the implications for testing so when we select refers problem it can further be not only it can be applied it can label it as the invent implication person forth or it can be experimented further it can be evaluated again so not only the relations are stated but the variables would be neither like yes the research problem should state some kind of relationship between two variables but even though it states there are some kind of a relationship but how to measure that how to measure that relationship.

So for that matter whichever variables you have taken whichever variables we have taken forward studying it examining it so we must have proper tools techniques or materials to measure the thing so these two variables should be measurable variables if you have taken the teaching methods when it can should be measurable if you are texting or taking the tune 30men it should be measurable if you are taking the classroom behavior to be measurable.

So not only and also for getting some kind of relationship but these tools variable should also be measure epistemological or metaphysical questions are not good research problems like for example as we have already discussed philosophical ideas philosophical our abstract ideas you know and highly system elliptical or metaphysical questions actually are not the good research problems.

For example like the does democratic education improves the learning of the after the philosophical questions that the stimulus can question but how to verify it how to examine it how to explain it how to justify it how to validate it so dull democratic a democratic education itself is a such a topic which cannot usually measure.

So our variable a democratic education can it be really measure will again improve the learning of and youngster youngsters if I use a little generation of learners the sample size will be the population the sample size will be Q then how to measure their learn and then there is no boundary of learning here so mapping the learning of the youngster again it will be a very challenging talk no such of man proper or appropriate tool and techniques will be available for collecting this kind of a question broad questions ambiguous questions will not leave the not the proper approach to the education results.

So similarly are the group processes good fertile again group processes like we can say when we take a talk about the collaborative learn for example collaborating learning collaborative either collaborative learning includes the students performance so when we are talking about the collaborative learning then we have to specify this collaborative linear learning in a particular content may beamed group in a particular subject domain.

So we have to bring certain boundaries certain limit certain constraints limitation in particular context whether collaborative learning improve systems performance but broadly taking collaborative learning or group process whether it can pull carbon students perform a silence buffer is a very question so scientific problems are not the moral or ethical questions So when we are collecting a research problem not owners particularly questions.

Are philosophical questions or moral questions are not scientific problems which because again there is subjectivity involved in the moral ethical question it involves subjectivity it varies from individual to individual from context to context from the group different groups serve and the groups and from our institution the institution so moral questions ethical questions are actually not the scientific question scientific problem because it cannot be verified easily.

And there is a high amount of subjectivity and individual variations in there so problems are not the techniques and methods of something and measurement again while selecting the problem we should not take this method of that method or sampling these other over the snowball sampling or random sampling or be sampling have that sampling method of the good this cannot be a resource problem there are different sampling techniques.

According to our research problem according to our population we can select one or the type of sampling method but comparing or taking the sampling technique sampling method as research problem is the foolishness so problems are not the techniques or methods of sampling and measurement so it must be the problem research problem must be a valid research permit it must be authentic if it must be scientific in the sense that it can be very playable.

It can be really mean it can be evaluated it can be and the relationship between the variables can be mapped properly it can be measurable and again with care with care we can further reexamine it for the reevaluated for it validated implication so here is the example to determine the reliability of the instrument to determine the reliability of difference to meant are there we are

using the instruments indifferent application in different contexts they have different purposes then what is our mean what is the purpose of reliability if in particular context in a particular situation for a specific staff.

If you have four or five instruments then we can verify the efficacy like under this situation under this context which instrument is more reliable more predictable in terms of which operation in terms of its accuracy in terms of this cost effectiveness or in terms of its timing etcetera so that is a separate question but to determine the reliability of instruments in general so whatever is what kind of this is permitted.

So to assign the people randomly so these kind of these kind of questions these kind of questions are not the good refers command to assign the people randomly to tell the significance of difference between means so these are these kind of thing these kind of issues are not acting the research problem the next is the problem should not be too general of the way so as we have already discussed that we are in the research for education is so the times time is as the resources a big resource it involves.

How much time it involves like if you have the three years time two years time what is a time limited we have right now and the resources available for us and you know the financial resources the manpower resources the timing the infrastructures in that particular context what should be the size of this such problem.

So that for but it is too much broad researcher problem will be a very big one are taking a very small portion kind of you know a kind of you know project or assignment the research problem goes away you know that which is not is not successful it is not be it really is due to the it not being useful it's completely useless so the problem should not be too general which is beyond our control.

Which is beyond our resources and utilization reliability or beyond our time frameworks it is which is very vague and broad or else you can say this very specifically to utility what happens when the lynches of the longitudinal study with continues over a long period of time so that they have designed of researcher in that way and they have distributed it among the different groups and they have sub identified different kinds of research problems and many people a number of people a large number of you.

You Know people are researching finding involved or engaged in that kind of result so that is clumsy signal problems longitudinal resource problems are very time consuming ready you can say very tough very elaborate and very you know even ended process but it involves at the same time and huge resources use the amount of time as the resources manpower human being researchers so all kinds of resources are also required so here you can say an example creativity is a function of self like self acceleration of the person.

So it is a very vague and broad question how-to measure creativity again with the individual component again it is subjective then again for self-actualization how to make a self-actualization identity very haves tucked concepts so how to establish the kind of relationship between these twothings so it is a very you can say very difficult to and very you can say a good kind of research problem to select it as a resource order yes we can say the creativity Oh creative thinking process.

How it takes place in case of the children how it takes place in case of adults how it takes place and case of proper level professional and group accident that is a different thing but creativity as function of myself asked a lesson is very difficult to prove it so we should narrow down the problem to a worktable size but not too specific and Octavia so now so we have to we have to map in such problem in terms of its size in terms of specificity in terms of tiny.

It will consume in terms of the resources and inters of selecting an idea silting research method in terms of selecting or in terms of getting the proper measurable tools to measure this variables in order to establish the relationships so you have to eat em to customize it customize it as per our requirement as for the proof fitness as for it some usability out as per its utility so but we should not narrow down it to be very trivial and very insignificant okay.

So example like to assess the relationship between speed of reading and size of typing with the question so I say the relationship between speed of reading and the size of typing so like what would be the font size of the text material and accordingly you know what will be the speed of reading but again individual variations are there and they ‘recommitting but first what is going to give us Camille what kind of result is going to L.

So even though we have found form or other kind of result in which is going to be useful for us or for others so what award to these applications so these trivial questions are very silly questions

which mean should not see later the this is problem for the research performance you consider the target population situation and context process of measuring the variable so while identifying this problem we should map it in terms of its feasibility.

Like what would be the population from where we can draw the sample and what should be the minimum sample size whether the sample represents that population characteristics or not and we which situation and which context we are going to verify the concepts or the variables then the how to measure the variables how the whatever concepts and variables you have selected and the independent or dependent variable.

So what would be the process of measuring those variables in which context situation whether it's a real-life situation the classroom situation or in the laboratory condition or in a you know in a relay station or in workplace like the factory where we are going to measure these are more variables so we have to consider these things all well the problem variable should be prop operationally defined and the favorable like the concept the terminologies in may have different and meaning different interpretation different definitions.

So for our study like for our study we have to operationally define it like in our study what does it mean but like for example to his achievement tables achievement or effectiveness of particular program or effectiveness of teaching methods or the impact of a teacher-student relationship so we have to operationally define it like what it means in our study otherwise it can be misinterpreted and interpreted our maybe interpreted in multiple ways multiple ways.

So the problem variable should operationally define not only operational defile but this should be feasible it should be possible tactually measure it should be feasible and possible to actually verify it examine it and should not be replicated as it is from the previous empirical work so suppose for example when were selecting certain resource problems of the variables to be studied we again wended to go through the empirical literature.

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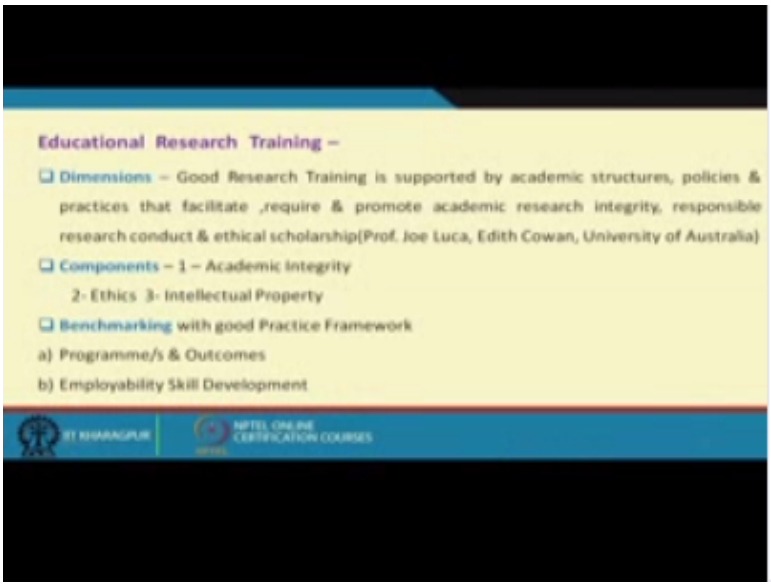

And click on work literature review whether these concepts and already variables have already been verified examined or not and if it has-been ideal and it has been studied then how so we have to that is a real Twitter review the mandatory component before selecting the very first problem suppose if it has already been done and what is your muse of necessity of repeating it again once again and even though we wanton repeat it then.

It should not be replicated as it is we need to like suppose some of the concepts of variable we need to reexamine revalidated in a particular context where we can select identify the variables but it should not be replicated as it is rather we have to find out the gap ideologist in the pasting the literature it has already been done games ripping works have already been done but these have been focusing on certain other aspects and these are the areas which have been left out.

And now I am going to focus on this left out of there it is so even though it can be really angry verified really studied but it should not be replicated as such as first but is in different form so but can be meaningful expansion of the previous ones that means what whatever they have already been done and the researchers have already been done and whatever left out like some other dimension future which have not even covered.

We can continue the same result in terms of the new dimensions in terms of for emerging issues and topics etcetera so that is are view of literature is a must for selecting the authentic relevant research problem that is where before selecting a research problem we need to-do a review of literature inters of theoretical backup in terms of empirical backup in terms of you know cross cultural air data in terms of experimental data.

We need to go through the whole lot of literature review before select the s relevant problem now will they discuss about the education and such training so back to actually conducting the education results or identifying a research problem etc we need to have such a training so we the students of different disciplines domains you should have some kind of orientation of the training prior to the education research.

So what are the factors like first is the dimensionsdeines of good research training is supported by academic structure policies and practices so good research training like pair to a prior to actually conducting the research education research or engaging or sultanate cell and experimental research laboratory research now so we need to have some kind of orientation and training.

So that is why it says that the good research training is supported by when we are advocating for the good research training it should be supported by the academic structure what is the academic structure of that implication and if like some institutions form organizations are very good in and link research training because we have a very good academic structure their policies are very much you know or research kind of policies and their practices are also very much resource friendly the atmosphere the environment.

You have created are very resource friendly and which facilitate and so the good research training is fascinated also fascinated recurrent from more by academic research integrity not just enough to create a good research environment in terms of structure policies and practices but also it should also adhere to stick to some kind of policy matters like good research training it advocates.

It promotes for academic research integrative adversely some kind of ethics values and philosophy must be involved in research and that is how to conduct research good research out collect ID and good research problem how to conduct research how to select the research

methods that would be some kind of ethics and values and principles would be involved so one such values and principle is that integrity academic integrity.

That means maintaining the Academy integrate like suppose in the literature review without doing the literature review or in the even those who have done the literature with somebody else or some other somebody has already done the research on that but by ignoring all these things were just trying to copy down copy down copy down the same experiment same thing etcetera just to include the student producer on research facility so that is not so honestly that is not the integrity.

So we have to maintain the academic research integrity and responsible with such conduct sorry exercise responsible research conduct shows that you have to be unique you have to have an original idea you have to be nervously you have to be different you have to end up the discovery of course not do something different something new and you should not replicate you should not copy and copycat any of the Nestlé's problem.

So it is not about copy-paste kind of thing or it will you can do repeating or plagiarizing and any of the research topic so you must have the good research condom ethical scholarship ethical callus which also research also involves ethical values scholarship academic integrity research integrity.

So these are but you can see the primary principles of good research training so that is the sunscreen important components of there one is academicintegrityyou must have there is an academician as a professionally must have the integrity academic integrity you must have the six professional ethics values and it takes you know that means your disciplinary ethics and values domain kicks then intellectual property.

If yes if you have quoting somebody go on if you are getting term giving an example of somebody's one then you need to acknowledge that person wended to acknowledge that study we need to acknowledge that authors are third-party in your study in your reference senior think so that is not because whoever has created something new has done something new it is visa hotkhadeem it intellectual property charges or her copyright.

So even though we are quoting you even though we're quoting you are citing as an example then we need to acknowledge that personality recognizes contribution soothes are the three

component components academic integrity ethics and values in research and intellectual property these are the three important component then research also must have some kind of benchmark or that means how to ensure this quality through this benchmarking like the benchmarking with good practice framework the research must have the benchmark in terms of its quality inters of its validity in terms of credibility in terms of its generalized ability.

So that it proves that benchmarking with a good research practice like the and the result of like from how do you evaluate the benchmarking leg in terms of programs outcomes like if you have conducted from this is the how attending that program was and what would be the what was what were the outcomes so in terms of the program which have been conducted or in research program doctoral program a doctoral program or master's program etc.

And now what are the outcomes the results the findings and add more text and it ensures it gives you the opportunity for the employment that is the employability skill development after engaging in a three years resource program four years or five years successful program what kind of employment employable skills you have developed what kind of this employable or job-related skills you have learned and developed as a result of which it ensures your future in getting a job soon.

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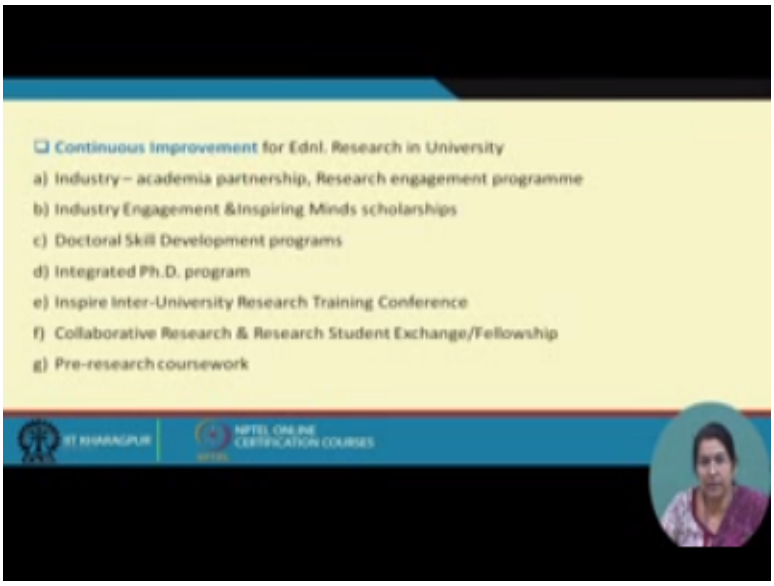

The basis of these two thing we usually map the benchmark in the quality of the research work then continuous improvement for the education researching the university so universities wallet me see we got the places of the higher learning the embodiment of the you know community and such programs and the higher learning are easy choice so they must promote they must promote research opportunities as a venue with the practices and the policies are set-in terms of many we can attain so many innovative ideas innovative strategies they consist and innovative practices.

So that must be continuous improvement of educational research in case of the universities understand the Institute's of the higher learning by adopting certain strategies like industry academic partnership nowadays is a very important topic emerging topic like like suppose we are conducting academic research in universities but it is of no use for anybody neither the industry people want it loses it or not the common man or the society no not the schools not the efficiency they are using.

So what is the purpose of spending time money and resources in this kind of research so that must be industrial continuous partnership where they continue the resources so they would get a idea of what actually the industry people they need require and what kind of research output can be useful for them and in enhancing where are you know productivity or processing etc.

So in that way so both academia and industry to build a much partner with each other in identifying the research problem which will be mutually beneficial for them then the research engagement programs then so what are the both the partnership both the partners mutual is

sitting with each other and having the dialogue Hendrickendiscussing all the issues they can also set up some kind of research engagement programs we investable often industry people also confers upon industries are people responses the internship program some kind of scholarship program some kind of student exchange program or exclusive or exchange programs.

So this kind of activities removes the research quality so similarly industry engagements and inspiring my scholarship dividend initiatives taken by the different entrepreneurs industry people organizations similarly doctoral skill development program supplier to Condor repair tactually conducting the resource program for the kind of preacher pre-orientation kind of or attends a crash course or a kind of internship on the skill development program.

So how to develop the doctrine resource steal program can also be conducted in that the doctor skill development programs similarly integrated like you can integrate the mom or PhD program research program with the MIS programofficeGraham our intake program so integrated Community Program are also this kind of initiative to inspire Interuniversity research training conferences when the two you know in diversities to education institution they collaborate with each other in not only in terms of their faculty exchange program.

But in student exchange program they can also joint you organize some kind of research training conferences for their students they can invite the other experts from in the industry from other organizations that mutually can collaborate and design acre program where they're not only their students will be benefited but other people can also participate so collaborative research and bridges project collaboratively the research again it's a joint kind of results venture project like with different organizations.

And maybe industry academia or maybe two three universities foreign university in divinity nurses they collaborate with each other they have take economic topic and issues and problems which will beneficial to again would do a larger sector of populations it is similarly resource food and exchange program postdoctoral fellowship program doctoral fellowship program programs so similarly sometimes before the conference also we can have a priests first course.

Now there is also many conferences international conferences they also organize you know the pre-conference workshop on some kind of statistical packages on kinds around some kind of quantitative data analysis methods on some kind of qualitative analysis methods they may also

organize some kind for such coursework for helping the students assess students for enhancing their knowledge skills and abilities in education research so next class will continue further continue on this topic now for the time being we stop here now thank you very much.