

I review the book "Fundamental of Educational Research (2nd Edition) by Bristol PA to get the references related to Research method, inquiry, characteristics of research process, research methods, data gathering

It expresses that educational research is an attempt to seek some sort of true educational setting. Educational Research is done to understand school system, curriculum, teaching & learning and assessment & practice. Educational Research is a disciplined research.

Regarding the characteristics of educational research, educational research possesses the feature of determining research purposes, research problems, research settings and investigation. The form of educational research comprises of the core problems and topics, the settings in which investigations are conducted, the methods of inquiry that they used and the purpose for which the research was pursued

The objective of educational research should have the purpose of making the measurement of individuals, measurement of their performance on a number of tasks, taking account on personal characteristics in the aspect of their backgrounds and accurate prediction of the likelihood of educational outcome.

Regarding the process of educational research, the educational research is essentially experimental and that these experiments must be carried out in the naturalistic settings and it should serve as a testing ground of the link between scientific and social innovation. It includes creating new standard and is also ideal and this to lead to a gradual change in conditions.

The book also guides me how to conduct the research inquiry that educational research includes the forms of disciplined inquiry and follows sets of rules and principles of pursuing investigations, discovery and verification for making and testing truth claims in their fields

It is very interesting to know about two different research paradigms. The first one is normative paradigm which involves positivist view and in which human behaviors essentially rule governed. It should be investigated by the method of natural science. The second one is interpretive paradigm which involves anti positivist view and it is characterized by a concern for the individual.

Regarding the background of the researcher, it states that the background and training of the investigator who conducts educational research is also important fact in educational research..

In performance of educational research, I note that the researchers who perform correlational approach receive samples from individual. In application of qualitative method, radical educational innovations are often conducted through case studies or ethnographic methods.

The process of research includes investigation and data gathering. Investigation is conducted by using a variety of survey techniques, measuring the performance of educational activities and doing the practices. Different procedures are to be followed to achieve the different purposes of how carry out, experience and perception.

From the book, I learn about data gathering that data gathering is also done to compile detailed description, videotaping, analyzing context, making interview, discover reaction, perception, collection of examples for their review and interpretations. It needs to examine the kinds of inquiry and observe the concept of educational activities.

Regarding the research approaches, the book shows the way of inductive-deductive approach, objective approach, critical theory and research questions and qualitative data as well as about reflection point which is basis for discussion for beginning of action research project. Thus I am able to perform my application of research method and addressing the problem and research question to consist of carefully planned actions and tasks because action research possesses the democratic form. The selection of action research can provide valuable on going professional development

Although there are different approaches, it states that neither approach is always superior to the other. Because each approach has its strength and weakness and over reliance on any one method is not appropriate. Both approaches are needed. In the light of those strengths and weaknesses, it needs to select an approach or combination of approaches.

The book also mentions that the requirement of quantitative method, answers, qualitative method and data will be required depending on the situation. Qualitative approach deals more with cases. The matching of question with method using quantitative method for quantitative questions and qualitative method for qualitative questions. Application of qualitative method is well able to deal with the complexity of such social phenomena because the qualitative method provides descriptions and with grounded theory. Qualitative research method is used to help conceptualize the studies and surveys are conducted to corroborate observational data.

The book also mentions the strengths of the approaches. I learn that qualitative method possesses the strength of more flexibility and action research has the strength in real improvement of practice by practitioner. It also outlines how to apply quantitative oriented approach and how the facts to include experimental, quasi-experimental survey, comparative research design, deductive inquiry, practical and educational significance, reliability and validity, how qualitative method is applied in collection of data, questionnaires and arrangement of interviews.

The methods which involve ethnograph, case study, description account, narrative, inductive inquiry, field work, participants' observation, document analysis (such as analysis of test questions), collection of artifacts (such as sample of students' work). Trustworthiness of description, interpretation, judgement of quality of research. It also gives the advice on doing triangulation to achieve the data validity. Regarding this issue **data triangulation** is applied for checking the data collected from students'

participation, attitude, and cohesiveness, **investigator triangulation** is applied for the person who organizes the survey work, **methodological triangulation** is applied for verifying the strength and effectiveness of teaching methodology and **theory triangulation** is applied for verification of educational theory applied in investigating classroom climate.

From the book , it also provides the fact on how credibility is to be established . I learn that reliability , dependability , stability, consistency and convergence of data reliability are all important to create credibility. If the data are collected from it is based on different sources, dependability , stability, consistency and convergence of data

It also explains that the requirement for research to become reliable, factual, confirmable and confirmed because findings will find to be more credible if the inquirer is able to demonstrate a prolonged period of engagement to learn context, to minimize distortion, to build trust, to build evidence of persistent observation and to triangulate by using different sources, different methods, multiple investigators and collected data. Thus in practical research, I can apply the way described in the unit to establish the credible result.

In data collection, it outlines the facts that care, control and thoroughness in the procedures for data collections were stressed in both qualitative and quantitative contexts. They come down to careful thinking and planning, anticipation and piloting testing and thorough preparation.

Regarding the ethical issue, it is very resourceful to get the highlight that conclusion which I will make in my research will not jeopardize the future research to honestly and fully disclose my findings to the relevant school authorities

Regarding the equal opportunity issue, it provides the point that the participants should not be discriminated on the basis of gender, sexual orientation, physical disabilities, marital status, color, social class, religion, ethnic background, national origin or attributes which are not relevant to the evaluation of academic or research competence..

I agree with the point that educational research is an ethical matter, and that its purpose should be the development of human good. I also get the important information that the significant harm to the participants is to be avoided. From the point of unit, it remind me to take care not to cause physical damage or pain, loss of privacy, whether through exposure to scorn, contumely or victimization or through the release of data

In the book, the author

- informs about cultural, religious, gender and other significant differences in the research population, and be sensitive to and respect these differences in the planning, conduct and reporting of their research.
- tries to minimize the risk of harmful social or psychological consequences of the research, and take steps to remedy any that occur.

Regarding the research methodology , I review the following articles.

(3) Fisher DL & Fraser BJ (1981): Validity and use of My Class Inventory Science Education 65 145-156

(7) Fraser BJ (1994): Research on classroom and school climate in D Gabel (Eds) Handbook of Research on Science Teaching and Learning Macmillan, New York 493-541

(13) Taylor,PC, Dawson V & Fraser BJ (1995) :Classroom Learning Environment under Transformation: A Constructivist Perspective paper presented at the annual meeting of the American Educational Research Association, San Francisco USA

(15) Tobin, K & Fraser BJ (Eds) (1998) :Qualitative and quantitative landscapes of classroom learning environment .In BJ Fraser & K C Tobins (Eds) The International Handbook of Science Education (PP 623- 640) Dordrecht, The Netherlands: K Luwer Academic Publishers.

(16) Tobins K & Fraser B.J (Eds) (1998): Qualitative and quantitative land scapes of classroom learning environments. The International handbook of Science Education

(18) Van Maanen, J (1988): Tales of the field : On writing ethnography, Chicago, University of Chicago Press

The reason to adopt WIHIC in the class attended by ethnic minority students is to assess the classroom environment influenced by the social- cultural factors.The papers states that both quantitative method and qualitative methods are used in the research work. Making the individual interviews, collecting the information from individual student as well as visiting the ethnic minority community school are also to be conducted.

From the article " Tale of field" **Van Maanen, J (1988):** it states that "In cross cultural study, cultural representation is constructed in term of the researchers' own culture, thus making method and methodology are inseparable. To study the cultural aspect, the method and methodology are modified to determine the students' view on how learning is affected by different cultural aspects. Appropriate questionnaires which are the method of approach relevant to age, educational level and life experiences possessed by students are to be prepared."

In the articles "Qualitative and quantitative landscapes of classroom learning environment" and Qualitative and quantitative landscapes of classroom learning environments ,Tobin & Fraser 1998) states that "Multiple method in comparative research are useful to achieve greater understanding and also useful to determine their

reason for various actions and to learn whether the classroom environment created by different teachers were influenced by social-cultural factors."

The papers states that quantitative datas are to be prepared to assess the learning environment and students' attitudes, involvement, investigation, task orientation, co-operation and equity. Qualitative method is also applied to generate the qualitative datas to provide insight into students' perception. By interpreting the study and analyzing the datas, it examines the social cultural factors influencing the learning environment.

The book states that Questionnaire on Teacher Interaction method is used to study the interpersonal relationship between teachers and students. The questionnaires to collect the information on how students want their teacher to behave and how they feel their actual performance are prepared and modified to get such information. The questions related to how the students described their best teacher is also to be included in the survey

It highlights the fact that Constructivist Learning Environment Survey (CLES) is used for assessing the condition to provide the meaningful learning of ethnic minority students in culturally different classrooms.

The method includes the assessment on the dimensions of a critical learning environment : personal relevance, uncertainty, critical voice, shared control and student negotiation. The question related to concern with students being invited to share with the teacher's control of learning environment including the articulation of learning goals, the design and management of learning activities, the determination and application of assessment criteria as well as those related to the extent to which opportunities exist for the students to explain and justify to other students from different cultures to develop ideas , to listen and reflect on other students' ideas and to reflect self critically on the viability of their own ideas are also utilized in the method.

It gives the guide that Manual scoring of questionnaire response was planned. To get the more reliable responses, CLES focuses the students' attention on the specific learning environment of interest and made the process of responding to items a more meaningful activity.

In the book, it is known that the usage of language is as clarified as possible to minimize the use of negatively worded questions. 4 CLES scales (personal relevance, critical voice, shared control, student negotiation) are utilized in the forms for two levels of analysis (the individual and the class mean).

The study will also involve how the systematic provision of educational opportunity and it's relationship with educational attainment.

Regarding the questioning, the questions which are used to explore the relationship between teacher's sense of self efficiency and their commitment to engage with the students in the migrant education classroom and how best might the students be supported are also arranged.

The internal consistency of 5 CLES scales (personal relevance, critical voice, shared control and students' negotiation) are also measured and provide the way to improve the consistency. Then the appropriate writing with consistency are used in the method.

Most of the ethnic minority students face the transition from their community classroom to cities classrooms. The attitude of the students deteriorated during the transition period especially they face the difficulty to understand the cities classroom, and nature of teaching methodology

As the Teacher Interaction plays as an important aspect of their learning, the combination of MCI and QTI are used. MCI portion measures satisfaction, difficulty, cohesiveness and competitiveness (Fraser & O'Brien 1985) and QTI is applied to assess teacher-student interactional behavior with 8 dimensions of leadership, helpful/friendly, understanding, student responsibility/ freedom, uncertainty, dissatisfaction, admonishing and strict behaviour.

It shows that investigation is also performed on how conceptual and meaningful learning depend on the transition and how the cultural competency affects their perception. The intensive observation is made at the classroom discussion with teachers, community support workers and community leaders. The informations are collected from the relevant cultural resource center to include in the questionnaires.

A comparison of how students' perception changed as a result of their first exposure on teacher centered method in the same culture and student centered approaches in the different culture in cities is also made. Such study is conducted in the method (4) My Class Inventory.

The book states that the Individualized Classroom Environment Questionnaires and Classroom Environment Scale (CES) are used to assess their perception on different teachers with different understanding in the cultural difference.

The questionnaires consist of the facts for teacher support, participation, task orientation, co-operation, innovation, personal relevance (Fraser 1994). Those questionnaires also incorporate the new scales to measure a variety of constructs which reduce the complexity of What Happens in the Classroom and focus on the selected aspects of teacher actions and interactions.

In the book, I also learn how to conduct the study. In the study, application of both qualitative methods which consist of interviews, discussions, collecting the information and qualitative method which consists of filling the questionnaires. The five scales of Constructivist Learning Environment Survey (CLES) (Taylor, Dawson and Fraser 1995) including personal relevance, the use of extent knowledge to construct new ideas,

negotiation of meaning and social constructivist perspectives are applied in the action research work.

I also reviewed the article "Judging The Quality of 4th Generation Evaluation" by Guba E & Lincoln Y S to make the reference to set the standard for quality of the project. As my project is to deal with the disciplined inquiry on how the classroom climate and behaviour of the ethnic minority students were affected in the transition period of changing from rural community schools to vocational institutes in cities, standards for judging the quality of such inquiry is essential. The article explained that internal validity of the inquiry is the central means for ascertaining the truth value of a given inquiry. It is known that establishing truth value involves asking question "How can one establish confidence in the truth of the findings of a particular inquiry for the subject with whom and the context in which the inquiry was carried out?"

History, maturation, testing instrumentation, statistical regression, different selection, experimental mortality and selection are threats to internal validity. The article also highlights that external validity is the approximate validity with which we inform that the presumed casual relationship can be generalized to and across alternate measures of the cause and effect and across types of persons, setting and time. Selection effect, setting effects, history effects and construction effect are threat to external validity. A study that is unreliable can not give the validity.

The article also expresses the factors that threat reliability. They are careless act in the measurement or assessment process, instrument decay, insufficiently long assessments and ambiguities of various sorts. Internal validity, external validity, reliability, objectivity, ontological and epistemology are frame work of the paradigms for inquiry.

The article also states that establishing the match between the constructed realities of respondents. Prolonged engagement, persistent observation, peer debriefing, negative case analysis are important points to achieve validity of the project.

As my research action project will refer the records of the ethnic minority students, the study related to progressive selectivity, member check, transferability, dependability and confirmability are also important aspects in the project. Thus I intensively study the article and set my plan to do the above tasks. The article guides the way to perform progressive selectivity, member check, transferability, dependability and confirmability.

The article guides that, to provide a check on the degree of privilege, prior to engaging in any activity at the site in the context in which the investigation is to proceed, the inquirer records his or her priori construction and archives that record. The article guides that member check is the process of testing hypotheses, datas, preliminary categories and interpretations with members of the stakeholding groups from whom the original constructions were collected. Member check is to be conducted to establish credibility, to correct errors of fact, to offer additional information, to change for the inquirer to summarize and to judge overall adequacy of the interview.

Regarding transferring and confirming the results, the article provides the guidance to achieve transferability, checking the degree of similarity between sending and receiving contexts, to set out all the working hypotheses for the study and to provide an extensive and careful description of time, place, context and culture.

The article also states that dependability depends on judgement and confirmability and it is concerned with the stability of the data over time. Regarding authenticity criteria, fairness and different constructions to be presented, clarified and checked.

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