Chapter III

METHODOLOGY
A. A PREAMBLE ON METHOD AND METHODOLOGY

The distinction between methods and methodology in research is clearly drawn out by many exponents (Fraenkel and Wallen, pp. 378-431, Cohen and Manion, p.38). Methods in educational and social research include the range of approaches used to gather data, which are to be used as a basis for inference and interpretation, for explanation and prediction. According to Kaplan (In Ibid. p.39), the aim of methodology is to describe and analyse these methods, throwing light on their limitations and resources, clarifying their presuppositions and consequences, relating their potentialities to the twilight zone at the frontiers of knowledge. It attempts to draw generalisations from the success of particular techniques, suggesting new applications, and to unfold the specific bearings of logical and metaphysical principles on concrete problems, suggesting new formulations. It helps us to understand in the broadest possible terms, not the products of scientific enquiry but the process itself. More recently critical schools have emerged, which extend their scrutiny not only to procedures, but also to methodology itself.

Some procedures, like historical, descriptive and experimental, and conventions of research have come to be accepted as the norm in educational and social research over the past few decades. Some even consider this as the scientific research. Systematic formulations of these procedures have been made by many exponents
like Mouly, Best, Good and Scates, Van Dalen and others for use in educational and social research. These exponents are committed to the empirical/positive epistemology and work largely on what is called the 'scientific paradigm' with clearly laid out methods supported by a host of techniques and tools. This approach is also called nomothetic methodology governed by precise rules and leading to generalisations. Many researchers following these schools believe that precise prior determination of variables and elaborate use of quantitative approaches and advanced statistics are the hallmark of good research. This is particularly so in economics and econometrics-inspired sciences.

More recently the limitations of these methods have been exposed, especially for the types of researches like the one taken up. To fill in the gap qualitative methods have been clearly articulated (Berg 1995, Bryman 1988, Dey 1993, Erlandson et al 1993, Glesne & Peshkin 1992, Holloway 1997, Lincoln & Guba 1990, Mason 1996, Patton 1990, Garfinkel, 1967, Turner, 1974, van Manen 1984 and others). Within a broad family of methods, different adjectives such as qualitative, naturalistic, ethnographic, field-oriented, phenomenological, hermeneutic, interpretative and so forth are used to indicate the newly emerging methodology. They cover the full range from scientific to philosophic research.

The present study uses both qualitative and quantitative approaches. The analysis of music and music education involves a great deal of sensitive issues which cannot be reduced to inert objective data and subjected to quantification. On the
other hand research has a dimension of public verifiability on scientific lines. Some exponents have clearly expressed the dialectic point of view that social scientists have come to abandon the spurious choice between qualitative and quantitative data (Datta, 1994, Reichardt and Rallis, 1994). They are concerned rather with that combination of both which makes use of the most valuable features of each. Hence it is proposed to use both these approaches to the extent relevant.
B. A THEORETICAL STATEMENT OF QUALITATIVE METHODOLOGY

This part is elaborated in detail, because qualitative methodology is seldom used in Indian educational researches. The multiplicity of approaches and sub-methods does not imply that all these were carried out in detail. But they served as a mental repertoire from which the actual method to be used in interactive situations could be chosen. A clear statement of the methods used in the study (in the general form) is made at then end of this chapter. Precise details of the varied methods in the particularistic form are often presented along with the results.

Qualitative methodology in intuitive forms can be traced in the work of even ancient thinkers. But its precisely articulated form is very recent and has not yet been popularly adopted in Indian educational studies, though many studies using these procedures have been reported in Dissertation Abstracts International. Hence an explanation of these methodologies may not be out of place.

Summary Statements from Fraenkel and Wallen:

According to Fraenkel and Wallen (1993, p.380) research studies that investigate the quality of relationships, activities, situations or materials are frequently referred to as qualitative research. The following dimensions distinguish qualitative methodologies from quantitative methodologies:

1. preference for hypotheses that emerge as study develops;
2. preference for definitions in context or as study progresses;
3. preference for narrative description;
4. preference for assuming that reliability of inferences is adequate;
5. assessment of validity through cross-checking the sources of information;
6. preference for expert informant (purposive) samples;
7. preference for narrative/literary descriptions of procedures for narrative/literary descriptions of procedures;
8. preference for logical analysis in controlling or accounting for extraneous variables;
The major characteristics of qualitative research (Patton, 1990, pp.40-41) are:

- **Naturalistic inquiry** - studying real world situations as they unfold naturally, non-manipulatively, unobstructively, without predetermined constraints on outcomes; openness to whatever emerges;
- **Inductive analysis** - Immersion in the details and specifics of the data to discover important dimensions, by exploring open questions;
- **Holistic perspective** - focus on complex interdependencies not meaningfully reduced to a few discrete variables;
- **Qualitative data** - detailed, thick description; inquiry in-depth;
- **Personal contact and insight**;
- **Dynamic systems** - attention to process;
- **Unique case orientation** - assuming that each case is special and unique; respecting and capturing the details of the individual cases;
- **Context sensitivity** - placing findings in a social, historical and temporal context.
- **Empathic neutrality** - understanding the world in all its complexity, including personal experience and empathic insight as part of the relevant data.
- **Design flexibility** - open to adapting inquiry as understanding deepens and/or situations change, avoiding getting locked into rigid designs, pursuing new paths of discovery as they emerge.

Steps in qualitative research are also listed (Fraenkel and Wallon, pp. 382-383) though they are not as distinct as they are in quantitative studies.

1. **Identification of the phenomenon to be studied**: Qualitative studies begin with research questions, which suggest foreshadowed problems. Foreshadowed problems are often reformulated several times during the course of the study.

2. **Identification of the participants in the study**: In almost all qualitative research, the sample is a purposive one, since the researcher wants to ensure that he obtains a sample that possesses certain characteristics relevant to the study. Random sampling is not ordinarily feasible.

3. **Generation of hypotheses**: Hypotheses usually emerge from the data as the study progresses. Some are almost immediately discarded; others are
4. **Data Collection:** The participants in a qualitative study are not divided into groups, as in experimental research, with one group being exposed to a treatment of some sort and the effects of this treatment then measured in some way. The collection of data in a qualitative research study is ongoing. The researcher is continually observing people, events and occurrences, often supplementing his observations with in-depth interview of selected participants and the examination of various documents and records relevant to the phenomenon of interest.

5. **Data Analysis:** Analysing the data in a qualitative study essentially involves synthesising the information the researcher obtains from various sources into a coherent description of what he has observed or otherwise discovered. Data analysis in qualitative research relies heavily on description; even when certain statistics are calculated, they tend to be used in a descriptive rather than an inferential sense.

6. **Drawing Conclusions:** In qualitative research, conclusions are drawn continuously throughout the course of a study. The conclusions are more or less integrated with other steps in the research process.

The instruments for data collection according to Fraenkel and Wallon (pp. 397-398) include:

(i) Field notes (the researchers’ written account of what they hear, see, experience, and think in the course of collecting and reflecting on the data); (ii) Field jottings (quick notes about something the researcher wants to write more about later); (iii) Field diary (a personal statement of the researcher’s feelings, opinions and perceptions about others who are the subjects of the study); (iv) Field log (a sort of running account of the researcher’s plan for collecting his/her data systematically).

**Summing up from Erlandson et al (ed):**

Erlandson *et al.* make it clear that in the naturalistic process of inquiry much attention is given to the problem of constructing and communicating reality. The formal jargon about *validity* and *reliability* are underplayed. Everyday language like *building trustworthiness, credibility, transferability, dependability, confirmability* are used (pp.20-34).

Erlandson *et al* have also spelt out the ‘Qualitative Criteria for naturalistic inquiry’. The techniques that provide trustworthiness include: prolonged engagement,
persistent observation, triangulation, referential adequacy materials, peer debriefing, member checking, the reflexive journal, thick description, purposive sampling and the audit trail. The authenticity and ethical considerations are also discussed.

Critique of Paradigms and Conceptualisations from Scott and Usher (ed):

Robin Usher (in Scott and Usher 1996, pp. 9-30) presents a drastic critique of the neglected epistemological assumptions of social research, exposing some limitations of the 'scientific paradigms' carried over into social research and providing a framework for criticising and synthesising different points of view.

The positivist/empirical epistemology is the outcome of the Enlightenment's dismantling of tradition as the source of knowledge. Tradition was replaced by sense-experience gained through observation and experimentation as the source of knowledge. Validity of knowledge was grounded in scientific method in the form of measurement, testability and the right use of reason. Positivist/empirical epistemology is based on the following assumptions:

- The world is 'objective'. It exists independently of the knowers. Events and phenomena in the world are lawful and orderly. Hence it is possible to explain, predict and control them.
- There is a clear distinction or separation between subjects and objects.
- The validity claims of knowledge is a matter of whether these are based in the use of the senses, on observation enhanced by measurement.
- There is order and reason in the social world as in the natural world.
- All the sciences are based on the same method of finding out about the world. The natural and social sciences share a common logic and methodology of enquiry.
- Epistemological enquiry and critique about the research process and reflexivity is a pointless exercise.
The assumptions stated above lead to an approach to research that emphasises *determinacy, rationality, impersonality* and *prediction*. The relevance of all these to social sciences are now questioned. In educational and social research, generalisations are possible but they will tend either to be truisms or to be too much general. It is questionable whether generalisable and predictive knowledge is possible in the social domain. Social events, processes and phenomena seem to be open and indeterminate. Predictive generalisations are possible only if this openness is closed. This closure has to be *imposed*. In that case the status of the knowledge thus obtained is also questionable.

Kuhn's (1970) critique of positivist/empiricist methodology (*ibid.*, pp. 14-18) has played a significant role in changing our understanding of science, research and scientific method. Positivist/empiricist epistemology assumes that natural science or any research is carried out in a ‘scientific’ way by individuals who detach themselves from the world they are researching. These are assumed to be *abstract* individuals with no history and unaffected by culture, values, discourses and social structures. Kuhn criticises this individualistic picture and instead presents science as a socio-historical practice carried out in research *communities* within which individual researchers are located. Since the communities are often invisible, fragmented or incoherent, many researchers believe that they are entirely on their own. Kuhn exposes the *rationalistic* claim of positivist/empiricist epistemology. Rationality is in fact mediated and shaped by factors such a socialisation, community, faith etc.
Kuhn's key concept, paradigm, is "the constellation of beliefs, values, techniques shared by members of a given scientific community" (Kuhn, 1970, p.75). Paradigms are frameworks that function as maps or guides for scientific communities determining important problems or issues for its members to address and defining acceptable theories or explanations, methods and techniques to solve definite problems. When a paradigm becomes settled and dominant within a scientific community research so carried out is 'normal science'. Then research work is largely routine problem-solving activity. But from time to time there are breaks and discontinuities in the paradigms (Kuhn calls them 'scientific revolutions'). Now there is a paradigm shift. According to Kuhn, knowledge claims are not independent and universal knowledge of the world, but relative to paradigms. Scientists have faith in paradigms. Normal science provides a 'norm' for working. Thus research communities exercise power.

Another critique comes from hermeneutic/interpretative epistemology propounded by Gadamer, Bleicher and others (ibid. pp.18-22). They argue against placing of science outside of history and human life generally. Natural science is not the sole model of rationality and the only way of finding the truth. Hermeneutic exponents focus on social practices in social and educational research. All human action is meaningful and has to be interpreted and understood within the context of social practices. It is interactive human behaviour that helps to construct meanings and to understand the social world. Since all sense-seeking is from an interpretative framework, all knowledge is perspective-bound and partial, i.e. relative to the framework. Knowledge therefore is always a matter of knowing difference rather than cumulative increase, identity or confirmation. It is impossible to separate
oneself as a researcher from the historical and cultural context that defines one's interpretative framework. The determination of meaning in the interaction of part and whole is called the hermeneutic circle of interpretation. It always takes place against a background of assumptions and presuppositions, beliefs and practices. The subjects and objects of research are never fully aware of them. They can never be fully specified. Gadamer calls this tradition. A more complex hermeneutic act is negotiating. There is no 'fact of the matter' or empirical 'given' which could be appealed to in deciding between different interpretations. "Research involves interpreting the actions of those who are themselves interpreters: it involves interpretations of interpretations - the double hermeneutic at work." (ibid., p.20)

Understanding is always 'prejudiced'. It can only be approached through an initial projection of meaning - for the subject's situatedness, from his/her stand-point in history, society and culture. Any methodological enquiry has these pre-understandings as the starting points. To 'bracket' or temporarily set aside our meanings, suspend our subjectivity and become a disinterested observer is impossible. But Gadamer argues that one's pre-understandings, far from being closed prejudices or biases actually make one more open-minded because, in the process of interpretation and understanding, they are put at risk, tested and modified through the encounter with what one is trying to understand. Gadamer calls research within the hermeneutic circle as a fusion of horizons. Horizon refers to one's standpoint or situatedness (in time, place, culture, gender, ethnicity etc.). This concept is explained by Usher:

Because it is situated, this horizon is inevitably limited but it is open to connecting with other horizons (perspectives, standpoints). The resulting fusion is an enlargement or broadening of one's own horizon ... The fusion of horizons
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constitutes a standard of objectivity which can function as an alternative to the objectivity of positive/empiricist epistemology. A fusion of horizons is the outcome of inter-subjective agreement where different and conflicting interpretations are harmonised. ... By comparing and contrasting various interpretations, a consensus can be achieved despite differences - indeed because of differences. Hermeneutic understanding is therefore a learning experience involving 'dialogue' between ourselves as researchers and that which we are trying to understand. (ibid. pp.21-22)

Another set of contributions comes from the Critical Theory Tradition (ibid. pp. 22-25). This theory is critical' in the sense that it challenges both the positivist/empiricist and hermeneutic/interpretative traditions of social research, though the former is criticised more severely. 'Critical' here refers to the detecting and unmasking of beliefs and practices that limit human freedom, justice and democracy. Much of the contribution in this field comes from Habermas who argues that different knowledge/research traditions are linked with particular social interests. Natural sciences and much of social sciences employ a technical / instrumental reasoning. They are guided by a technical interest. The hermeneutic sciences (history and some forms of social sciences) employ practical modes of reasoning. Neither ends nor means are pre-given and known rules of method are not given. We are concerned with making of right and appropriate decisions and judgements in the light of the circumstances of the situation. Habermas isolates a third type of 'knowledge-constitutive interest' which is linked with critical science or theory. This knowledge interest is emancipatory - the unmasking of ideologies that maintain the status quo by restricting the access of groups to the means of gaining knowledge and the raising of consciousness or awareness about the material conditions that oppress or restrict them. It is concerned with the understanding of the causes of powerlessness, recognising systemic oppressive forces and acting
individually and collectively to change the conditions. It follows the ideology critique approach. But research is not confined to unmasking or consciousness-raising but is also about taking action to change the situation. Habermas calls it the organisation of enlightenment. His first concern is about 'systematically distorted communication'. After analysing the different validity claims, Habermas concludes that undistorted communication is language use where what is said can be shown to be meaningful, true, justified and sincere. He next argues for the ideal speech situation, which is bound up with his conception of truth. Truth is not correspondence with the world; it can be understood only in relation to the process of argumentation. For Habermas, truth is rational agreement reached through critical discussion. It is possible to distinguish an agreement of this kind from a consensus based on custom, faith or coercion.

For both hermeneutic/interpretative and critical theory traditions, being 'objective' does not mean having the 'right' methods, but having the 'right' arguments and being prepared and able to subject them to the scrutiny of critical dialogue. Praxis (informed, committed action) is an essential element of research in Critical Theory. Dialogue is only a condition of emancipatory action since praxis encompasses dialogue and action. Research is not merely a matter of 'finding out' about the world but of changing it in the nature of justice and democracy.

Lastly, Usher's summary of post-modern approaches to research (ibid. pp.25-32) may be worth summarising, particularly because of its relevance in the present analysis extended to music. Postmodernism questions the formerly secure foundations of knowledge and understanding. It refuses to accept the quest for a
'God's eye view', a disembodied and disembedded timeless perspective that can know the world by transcending it. It represents a loss of certainty about what is known and in ways of knowing. It brings about an awareness of the complexity and socio-historical contingency of the practices through which knowledge is constructed about ourselves and the world. All approaches to research are a reflection of cultural beliefs about the world we live in and want to live in. Educational research is a social practice, the product of social, historically-located practices. Research has a conventional and constructed quality. Post-modernism also differs from hermeneutic/interpretative school, and even more strongly from empirical/positivist school.

For post-modernism, knowledge-generation is a practice of 'languaging', a practice of textual production. Language is not a mirror held up to the world or a transparent vehicle for conveying the meaning of an independent external reality. Language is both the carrier and creator of a culture's epistemological codes. No form of language can be separated from language, discourses and texts at work within a culture. The author is also an 'author-ity'. Objectivity is a textual construction, where the use of certain textual devices, for example narrative realism, constructs the 'scientific self' of the 'objective' researcher.

On the other hand the feminist author Lather aims at doing research in a different way. Some of her standpoints are presented below (ibid. p.31):

- to make a space from which the voices of those not normally heard could be heard;
- to move outside conventional research texts, outside the textual devices which help to construct research as 'scientific';
- to explore a complex and heterogeneous reality which does not fit neatly into pre-
established categories;
♦ to be concerned with the politics of research, in particular to examine how any
categorising is an act of power which always marginalises;
♦ to put the researcher back into the picture, given that the researcher is a social
subject in relation with others. (Patty Lather’s interest in emancipatory pedagogy
shapes the process and product of her enquiry).

Usher’s methodological analysis elaborating on “Textuality and Reflexivity in
Educational Research” (ibid. pp.33-51) is of special interest because of its possible
extension to musical text categories. He starts with foregrounding of the
‘repressed’ textual dimension in research. In research, writing becomes
unavoidable and the very production of writing makes questions of textuality and
reflexivity unavoidable. The analogy with literature is interesting.

Literature as a textual practice is also in the business of creating worlds...If we were
to conduct our research in the literary mode and present our findings in the form of
a literary text then we would have created a world, albeit a very different one, just
as much as if we had faithfully followed the linear model. ... This is not to say that
social and educational research is the same as literature but both are practices and,
more specifically, textual practices. Writing dissolves the opposition of fact and
fiction and reverses the privileging of the former over the latter. Both research and
literature as practices of writing construct worlds and are therefore ‘fictional’.
Thus in both reflexivity becomes an issue and both have the means from within
their own practice to conceal its significance. (ibid. p.35)

Foregrounding of reflexivity has its problems. It can lead to a ‘personalisation’ of
research, giving the notion that research is ‘finding out about oneself.’ The desire to
explain and understand always points back to self-understandings and self-
constructions. This is called ‘personal’ reflexivity. There is also the epistemic or
disciplinary reflexivity where having moved from the researcher to the research act
the focus switches to the communities within which a research as a practice is
located. It must also be noted that even personal reflexivity is rather the 'social' subjective in the sense of the embodied and the embedded self that is being foregrounded.

Reflexivity is a representational practice 'in' language rather than a transcendent process 'outside'. It makes 'moves' both through and within language. Reflexivity has traditionally been seen as a 'problem' that must be avoided or overcome because it interferes with or 'contaminates' outcomes as truthful representation. Methodology or the systematic use of methods is supposed to banish the reflexive 'problem'. But the double hermeneutic means that reflexivity is present at the very heart of the practice of research. Different schools attempt to 'resolve' the problem in different ways. One is to explain it away saying that the researcher is working at a 'higher' or meta-level than those they are researching. In ethnographic and grounded research reflexivity is accepted but its consequences are attenuated. Woolgar (1991, p.22) refers to a 'benign introspection' which involves thinking about what one is doing and adding 'fieldwork confessions'. In ethnomethodology, reflexivity is constitutive rather than something 'added on' (Garfield 1967). It is argued that ethnography does not 'represent' the 'objective' reality. The ethnographic text is a construction rather than a reflection or translation of sociocultural reality. Clifford and Marcus in their Poetics and Politics of Ethnography (1986) argue that both researchers and researched are the 'authors' of sociocultural representations.

Several insights on reflexivity and writing from Barthes, Derrida and Parker & Shotter have been brought out. Only the key terms are stated here. Barthes (1977
p. 201) argues that method is "a spectacle mounted in the text." Academic texts work in ways which make them appear as if they were located in no particular context. (Parker and Shotter (1990 p.2). The context is actually in the research practices of the relevant community. The reader needs to get initiated into the community and get a command of its shared "predetermined meanings" and become a "party to the necessary moves."

Derrida (1987) claims that there is no 'outside' of the text. Whatever is 'outside' can only be made knowable by being already 'inside'. If research is a textual practice, texts always have a 'con-text' in the sense of that which is with the text - i.e., the situated autobiography of the researcher/reader. Research texts have a 'pre-text' in the sense of that which is before the text : language as the repository of meaning, discourses as particular ways of organised meanings, the textual strategies, literary conventions and rhetorical devices of writing. Shotter (1990 p. 25) refers to rhetorical devices as 'special methods of investigation/proof'. The operation of power, the ability to claim and establish presence leads to research texts having a 'sub-text' or that which is beneath the text - the operation of research paradigms and traditions and the power/knowledge discourses through which they are expressed and have their effects. Research texts also have an 'inter-text' in the sense of that which is between texts. Inter-textuality refers to the inhabiting of any particular text by the structure of the trace ... the interlacing and resonance with other texts (Wood, 1990, p.40), and which works both at the conscious and unconscious levels. Barthes (1977 p. 146) analyses inter-textuality thus:

a text is not a line of words releasing a single theological meaning (the author's
meaning) but a multidimensional space in which a variety of writings, none of them original, blend and clash. The text is a tissue of quotations drawn from the innumerable centres of culture.

A very interesting analysis included in Scott and Usher (1996) is that of Bryant raising the level of action research and relating it to reflective practice (ibid, pp.106-119). Action research had its origins in wartime operational research and the post-war developments of Kurt Lewin’s theories of change agency in formal agencies. In the USA action research was regarded as a species of applied, client-oriented research with no foundationalistic claim of its own. In the UK action research became a movement in response to the issue of making academic research relevant to practitioners’ problems. Emphasis was placed on case studies of situational understanding aimed at changing practices through negotiation involving all parties in an investigation.

Postmodernism decentres the knowing subject. There are no Archimedean points from which the subject can view the world in a disembodied way. The subject is decentred, enmeshed in the ‘text’ of the world, constituted in intersubjectivity, discourse and language. There is no absolute and universal knowledge. In postmodernism there is a foregrounding of complexity, uncertainty, heterogeneity and difference. As Usher, summarising Acker and Esseveld (198) puts it:

...research is embedded in unconscious forestructures of understanding, the ‘unsaid’ and ‘unsayable’ - that is the condition of any methodological knowing. All knowledge of the real is textual, i.e. always already signified, interpreted or ‘written’ and therefore a ‘reading’ which can be ‘re-written’ and ‘re-read’... However ... some readings are more powerful than others.
Cohen and Manion (1985) characterise action research as a ‘style of research’ which is situational, collaborative, participatory and self-evaluative. They also see it as a ‘method’ dedicated to adding to the functional knowledge of the practitioner. But they see it as a very limited enterprise. According to them action research interprets the scientific method loosely because the focus is on a specific problem in a specific setting. But a broad view of action research is given by Carr and Kemmis (1993, pp. 177-78). They view action research as critical social science. It is ‘a self-reflecting spiral of cycles of planning, acting, observing and reflecting’. It is an ‘approach’ rather than a method.

Qualitative description and critical methodology were also used to supplement quantitative treatment of the data. They are very relevant in a study which starts with facts, but when one tends to move on to problems which face millions of the poor and the down-trodden, purely objective and disinterested scientific methodology does not help us to make this transition. So great a champion of scientific method as Herbert Spencer opposed ameliorative action for the poor on grounds of ‘scientific evidence’ about struggle for existence and survival of the fittest. But since then much objective evidence has come about how the ‘unfit’ have become ‘fit’ through massive and committed social engineering projects. But this process of social action has come about through a special combination of science and technology with a humanistic vision, ‘emancipatory action’, search for meaning, critical and interpretative stance and faith that ‘what was considered impossible’ could be achieved. Some bias and pre-judice can be seen in such action and thinking. But such pre-judgement is the essential condition for starting to act and even intellectually analyse the problem adequately. The contribution of the
modern qualitative, critical and hermeneutical schools is that they have devised methods of checking the errors in such thought and action and arriving at closer approximation to 'truth' even in these complex conditions.

Another recent emphasis is breaking the dichotomy between knowledge and action. The old model of 'pure' researchers engaged in 'disinterested pursuit of knowledge' supplying fragments of truth to lower mortals engaged in action does not apply to the more crucial segments of the present study. Committed action on a massive scale illuminated by reflection (reflexive praxis) is an essential part of the present study.
C. CLARIFICATION/FOCUSING OF BASIC CONCEPTS IN
QUALITATIVE RESEARCH

A recent work by Holloway (1997) makes several basic concepts relating to qualitative research clear. He defines qualitative research (p. 1) as a form of social inquiry that focuses on the way people interpret and make sense of their experiences and the world in which they live. A number of different approaches exist within the wider framework of this type of research, but most of these have the same aim: to understand the social reality of individuals, groups and cultures. Researchers use qualitative approaches to explore the behaviour, perspectives and experiences of the people they study. The basis of qualitative research lies in the interpretative approach to social reality.

The interpretative or interpretivist model (Holloway, pp. 1-2) has its roots in philosophy and the human sciences, particularly in history and anthropology. This approach centres on the way in which human beings interpret and make sense of their subjective reality. Even in the last century, philosophers like Dilthey took the stand that the social sciences need not imitate the natural sciences; they should rather focus on empathetic understanding. The interpretivist view is still more closely connected with the thinking of Max Weber’s Verstehen approach, which implies understanding something in context. It has elements of empathy, not in the psychological sense as intuitive and non-conscious feeling, but as reflective reconstruction and interpretation of the actions of others. Weber insists that social scientists should be concerned with the interpretative understanding of human beings. ‘Understanding’ in the social sciences is inherently different from ‘explanation’ in the natural sciences. According to Weber the natural sciences use nomothetic, rule-governed methods, but idiographic methods are not linked to
general laws of nature, but to the actions of human beings. Quantitative studies yield numerically measured probability, but Weber advises that we should treat the people we study 'as if they were human beings,' and try to gain access to their experiences and perceptions by listening to them and observing them.

Anthropologists such as Malinovsky and Mead, and sociologists of the Chicago school such as Park and Burgess adopted the focused approaches, researches from the 'field' or natural setting, and gradually the field of qualitative research began to widen.

The characteristics and aims of qualitative research (Holloway, pp.5-10) include:

- **Focusing on the everyday life of people in natural setting;**
- **Primacy of data; theoretical framework is not predetermined.** The data themselves generate new theoretical ideas, or they help modify already existing theories. Hence the research design cannot be strictly predesigned before the start of the research. The movement at least initially is from specific to general, data to theory.
- **Contextualisation.** Researchers have to be sensitive to the context of the research and of people’s lives. They must realise that the participants are grounded in their history and temporality. This will help them to locate the actions and perceptions of individuals and grasp the meanings that they communicate.
- **Immersion in the setting.** Qualitative researches use the strategies of observing, questioning and listening, immersing themselves in the 'real' world of the participants and in the culture which they propose to study. They thus make the strange familiar. But since over-familiarity may lead to missing important issues, they should also 'question their own assumptions and act like strangers to the setting.'
- **The 'emic' perspective.** This metaphor is drawn from linguistics where phonemics refers to the study of a particular language and phonetics, the study of sounds across different languages. The 'emic' perspective explores 'the insider's view' and search for commonalities. It is an attempt to examine the experiences, feelings and perceptions of the people they study, rather than imposing a framework of their own. They 'uncover' the meaning people give to their experiences. The researcher examines the situations, events and actions from the participants' (the social actors') point of view and not impost their own perspective. (This is in contrast to the view of the researcher as an 'outsider', which is the 'etic' point of view.)
- **Thick description.** This refers to the detailed and vivid portrayal of the participants'
experiences, going beyond surface phenomena to their interpretations, uncovering feelings and the meanings of their actions. Denzin (1989: p.83) defines thick description as "deep, dense, detailed accounts of problematic experiences...It presents detail, context, emotion and the webs of social relationship that join persons to one another." It includes factual as well as theoretical and analytical description.

- **Equality in research relationship.** The relationship between the researcher and the research is close and based on a position of equality as human beings. During interview the researcher as listener often becomes the learner, while the informant is the teacher who is also encouraged to be reflective.

- **The close interaction of data collection and analysis.** In qualitative research data collection and data analysis generally proceed together and interact. This is particularly so because many hypotheses arise in the course of the research; the data help to generate the theory, which in turn helps in interpreting data.

Qualitative research can be considered as being both a science and an art. Much of qualitative research is scientific and open to peer examination and public scrutiny. But the way of writing, especially in ethnography and related methodology, not only reflects the real world, but has to be communicated in a readable and understandable style.

Qualitative research can take an action research dimension. Action research conducted by the teacher-practitioner is sometimes understood in immediate problem-oriented, but narrow in scope without much deep theory. Qualitative research also does not insist on prior theory, but it lends itself to generating good and even deep theory resulting in worthwhile and transferable findings. Action research in this context involves collaboration between researchers and practitioners. Carr and Kemmis (1986: p.165) summarise its objectives in the pithy phrase: ‘to improve and involve’. This type of research usually involves collaboration between researchers and practitioners. They attempt to understand and improve practice and its context. Practitioners are also involved in the design,
data collection and data analysis and evaluation. Action research conceived on a plane of equality between researcher and participant is called participatory action research (Reason, 1994). Springer (1996) analyses its characteristics as: democratic, equitable, liberating and life-enhancing.

Audit Trail is a methodological procedure devised by Halpern (1983) and further elaborated by Lincoln and Guba (1985) and others. It is the detailed record of the methods and decisions made by qualitative researchers before and during the research process. The elements of the audit trail are:

- a description of the design with aims and intentions of the research
- a record of the methods and procedures
- an explanation of the sampling procedures
- a description of the data collection and analysis processes
- a record of decisions about ethical issues
- excerpts from the data (from field notes, quotes from interviews etc.)

Case study is a method used in both qualitative and quantitative research. But the qualitative approaches are especially sensitive to specific individual focus, context and interactive aspects. Case study is used in a variety of meanings. Data for cases are collected through various techniques like observation, interview, documentary research etc. Case data can be used for generating theory. Life histories of individuals can provide interesting examples of cases. Since the generalisability level of case study is low, typical or multiple cases are often studied.
Content analysis is a procedure used in qualitative as well as quantitative research. Qualitative analysts have added some refinements and categorisations: Manifest content analysis involves the search of the content of an interview or document for particular concepts and categories apparent in the data, the criteria and coding system being established prior to the analysis. Latent content analysis searches for meanings which are not immediately obvious from listening and reading. The analysis goes beyond surface themes and appearances to underlying phenomena and their interpretation. In Inductive content analysis the researchers derive themes and constructs from the data without imposing a prior framework and without counting. (In Holloway, pp.34-35).

Context sensitivity is an important concept in qualitative research. Silverman (1993) points out the context sensitivity enables the researcher to recognise that institutions and concepts have meanings which differ according to the context. He also stresses the active production of context by human agencies.

Conversational Analysis is a method developed in 1960s and 1970s in the United States by Garfinkel, Turner and others in the context of ethnomethodology. It is a form of systematic analysis, which examines the use of ordinary language and asks how everyday conversation and interaction work. It focuses on naturally occurring talk and on the organisation and ordering of speech exchanges. They also analyse non-verbal behaviour. They uncover the structures behind 'talk-in-interaction' (Psathas, 1995).
**Co-operative Inquiry** is a form of participative research in which a group carries out collaborative research on an experience or 'aspect of the human condition' (Heron, 1996). It is based on the belief that human beings have the fundamental right to autonomy and participation in decision-making about issues which affect them directly. Reason (1994: p.1) calls it 'research with people rather than research on people. The individuals facilitating the research and the other participants become co-researchers. The stages of the Co-operative Inquiry Cycle (Heron, 1996) are:

1. The first reflection phase in which co-researchers choose the topic for inquiry make a statement about it develop a plan of action decide on the way of recording the experiences

2. The first action phase includes exploring an experience or condition applying a range of inquiry skills recording the data

3. Full immersion involves: gaining insight and awareness 'losing the way' going beyond the format of the research

4. The second reflection phase consists of: sharing experiences and reviewing the topic choosing an action plan for the next phase reviewing and modifying the ways of recording data.

**Critical Theory** involves the belief that rational human beings are able to critically assess and change society and become emancipated. The theorists are critical of the 'scientific' version of truth and objective reality and stress the influence of 'values, judgements and interests of humankind' (Carr and Kemmis, 1986: p.132). These ideas are associated with Marxism. The Frankfurt School of Social Science and Jürgen Habermas who developed it note that it has its place between
philosophy and natural science. Critical social research, based on this theory, aims to effect a change in the lives of people which they initiate themselves through an understanding of their social condition.

Data Analysis in qualitative research involves breaking down the data and searching for codes and categories, and then reassembling them to form themes. It involves the following steps:

1. Ordering and organising the collected material
2. Re-reading the data
3. Breaking the material into manageable sections
4. Identifying and highlighting meaningful phrases
5. Building, comparing and contrasting categories
6. Looking for consistent patterns of meanings
7. Searching for relationships and grouping categories together
8. Recognising and describing patterns, themes and typologies
9. Interpreting and searching for meanings

Discourse Analysis is an analysis of text and language which draws on 'accounts' for action which participants present. 'Accounts' refer to forms of ordinary talk and reasoning of people, as well as other sources of text, such as historical documents, diaries, and reports. Discourse analysis is a specific approach to the social world and research rather than a method (Potter, 1996).

Ethnography is a research method of anthropology which qualitative researchers have come to adopt and extend to other areas. The term means description of the people, literally 'writing of culture' (Atkinson, 1990). This field emerged in the 1920s and 1930s with the work of anthropologists such as Malinowski, Boas and
Mead, while searching for cultural patterns and rules in the non-western cultures explored by them. Two subdivisions within this field have been recognised: (1) descriptive or conventional ethnography (2) critical ethnography.

The main features of ethnography are:

1. the collection of data from observation and interviews
2. thick description and the naturalistic stance
3. work with key informants
4. the emic/etic dimension

Ethnomethodology was originated by the American sociologist Garfinkel (1967) and developed by Sacks, Turner and others in the 1970s. It is the exploration of 'ethnomethods' (methods of people or members) and uncovers how members of society 'do' social life, share reality and make sense of the world. Garfinkel et al. criticise other sociologists for giving their own views rather than the ideas of the ordinary member of society. Social actors base their actions on commonsense knowledge learnt through socialisation processes, providing recipes for action. All human beings have this practical knowledge, but they do not always know that they possess it. According to Turner (1974), ethnomethodology focuses on the world of social practices, in particular, of interactions and interaction rules. It seeks to show that members of society make sense of their actions on the basis of tacit knowledge, their shared understanding of the rules of interaction and language. Conversation analysis is the common research method employed. It is related to the school of symbolic interactionism.
Grounded Theory is a key concept in qualitative research. It is associated with the sociological school of symbolic interaction and aims at developing theory from the data collected. Glaser and Strauss (1968) who developed this theory achieved thereby (1) the closure of the arbitrary gap between theory and research, (2) the independence of qualitative research, (3) more rigorous and systematic for qualitative research, (4) interaction between data collection and analysis and (5) a status for grounded theory – that it was not merely description, but conceptualisation, generation of theory by researchers. Grounded theory is particularly useful when little is known about a problem area or when a new and exciting outlook is needed in familiar settings. This style of research uses constant comparison. Each section of data is compared constantly with every other part throughout the study for discovering similarities, differences and connections. All the data are coded and categorised, and from this process major concepts and constructs are formed. (Holloway p.82)

Grounded theory contributes to theoretical sensitivity. A new concept of sampling called theoretical sampling comes into play - which is guided by ideas having relevance for the emerging theory. Theoretical sampling is continued until the point of saturation is reached – i.e. when a concept is mentioned frequently and described in similar ways by a number of people.

Data Analysis goes on throughout the research. Coding and categorising are used right from the beginning. Open coding, an initial step, is the process of breaking down and conceptualising the data and giving each separate idea a label. After initial coding, the codes are condensed (or collapsed) into groups of concepts
with similar traits, called categories. The researchers go on to axial coding where they resemble the data broken down through open coding. Categories are grouped together in a new form to build major categories. Selective coding – coding for the main phenomenon or the core category – is the third step. Coding and categorising involve constant comparison.

Hermeneutics is an important aspect of interpretative methodology. The term is derived from Hermes, the Greek messenger of the gods. Dilthey, Heidegger, Gadamer and Habermas developed the concept. Researchers using hermeneutic phenomenology gather data from language, texts and action. They return to the text frequently and ask the participants what the data mean to them.

Interview methodology has been developed very intricately in qualitative research. In-depth interview is a favoured strategy for data collection. It produces 'rich' data. Informal interviews are conversations where an observer might ask about the observed activities. Formal interviews are usually set up in advance and tape-recorded. The unstructured interview begins with a broad, open-ended question within the topic area. The researcher uses an aide memoire covering the key points. Prompts or short questions can be used to develop ideas. The semi-structured interview has a more specific research agenda and is more focused. The questions are contained in the interview guide. Researchers have to be aware of interview bias and guard against it.
Observation is another area developed in depth by qualitative methodologists. Participant observation is a methodology which had its origins in anthropology. It comes very handy in qualitative researches in many disciplines. Immersion in a setting is the first step in observation. It permits prolonged engagement, which generates more in-depth knowledge of a culture or a sub-culture. The settings for participant observation can vary in a continuum from open settings (public, visible settings like the street), to closed settings (management meetings or clinics). Gold (1958) identified four types of observer involvement in the field.

- The complete participant, who is part of the setting, and takes an insider role which often involves covert observation.
- The participant as observer, who has negotiated his way into the setting as part of the working group under study.
- The observer as participant, only marginally involved in the situation.
- The complete observer who does not take part in the setting and uses a ‘fly on the wall’ approach.

Mini-tour observation leads to detailed description of smaller settings, while grand-tour observation is more appropriate for larger settings. Focused observations are the outcome of specific questions. Researchers proceed from broad observations to observing small units for investigation. Progressive focusing is a feature of both observation and interviewing. In covert observation, researchers do not disclose the real reason for their presence in the setting.

Paradigm is a philosophical model or framework originating in a world view and belief system based on a particular ontology and epistemology and shared by a scientific community. The term has been popularised through the writing of Kuhn.
(1970). His concept of paradigm shift is even more relevant in the present work. (Holloway, p.113).

Peer debriefing is a process in which an outsider (another researcher or colleague) reviews the data and the analysis. The peer can examine the situation more dispassionately and offer suggestion.

Phenomenology is a philosophical approach in the study of phenomena (appearance) and human experience. Though it is a philosophical attitude to human existence rather than a research method, it has been used as a method to explore the living experience of people. The early stage of this school was set by Brentano (1838-1917) who stressed the 'intentional nature of consciousness'. The concept of intentionality was explained later by Moustakas (1994, p.28) as "the internal experience of being conscious of something." He notes that consciousness is always directed at an object; awareness or perception is always of something. The second and most important stage of phenomenology is the German phase initiated by Husserl (1931) who believed that it can be a rigorous science. He developed the concepts of intuition, essence, phenomenological reduction and inter-subjectivity. Intuition demands that the observer becomes immersed in the object of his/her perception and relates it to other phenomena. Phenomenology aims at stripping away the everyday, going to the very foundations of things and recognise the essence or eidos, the 'real' intended meanings of phenomena. Phenomenological reduction views things without prior judgement or assumptions, seeing and describing them through observation and experience. Husserl's interest is in the structure of the lived experience of people whose
environment is not separate or independent from them. *Intersubjectivity* implies that human beings live in a shared world.

The German philosopher Martin Heidegger worked on *Being and Time*, and particularly on *Dasein* (Being there). He influenced the development of the third phase of phenomenology – the French phase represented by Marcel, Sartre and Merleau-Ponty.

Colaizzi (1978) lists seven steps in phenomenological analysis:

1. Repeatedly reading participants’ descriptions and listening to tapes to get a ‘sense of the whole’ or Gestalt.
2. Focusing on those aspects that are seen as most important for the phenomenon under study and extracting significant statements.
3. Formulating meanings – making sense of significant statements of them in the participants’ own terms. Hidden meanings are uncovered.
4. Organisation into clusters of themes - after repeating the procedure with several interviews.
5. *Exhaustive description* – a detailed and analytical description of the participants’ feelings and ideas contained in the themes.
6. *Identifying the fundamental structure* of the descriptions
7. *Member check* – taking the findings back to the participants and obtaining respondent validation. (Holloway pp.116-120)

*Post-modernism* is a cultural phenomenon stressing the plurality and diversity of values and beliefs. It is characterised by *relativism* and *extreme subjectivity*. Post-modernist researchers reject the ideas of causality and generalisability. (Holloway pp. 123-24). The implications of this school has been elaborated under B.
Methodology

Research relationship in qualitative research differs markedly from the relationship in quantitative research. Here researchers do not detach themselves from the participants, nor do they treat them as passive subjects. The researcher approaches the participants as fully equal human beings. The relationship is one of partnership. The researcher takes a non-judgemental stance towards the thoughts and words of the participants. Goffman (1969) refers to the importance of impression management, the way people present themselves to others.

As regards sampling, qualitative researchers do not insist on random sampling. They generally use purposive sampling. LeCompte and Preisle (1993) prefer the term criterion-based sampling, because qualitative researchers choose certain criteria in advance on which the selection of sample is based. The sample size is generally small, but consists of 'information-rich' cases. Grounded theorists use the term theoretical sample, which has been explained already.

Subjectivity is seen by qualitative researchers in a light different from that of 'scientific' methodologists in social sciences. Here subjectivity is seen as a potential resource. Objectivity is difficult to obtain due to the closeness of the relationship and the immersion in the setting. Subjectivity sensitises researchers to the events and people under investigation. But qualitative researches are advised to become aware of their own assumptions and be always conscious of their own 'cultural baggage'. Open recognition of their own subjectivity helps qualitative researchers to disregard their own wishes to achieve a particular objective. They emphasise the concept of reflexivity about one's own values, cultural background
and beliefs that might affect the results. Good research must be carried out without distorting what is heard or seen. In this sense qualitative research aims at objectivity. Reason and Heron (1995) emphasise critical subjectivity, which accepts subjective experience as a basis for knowledge, but this knowledge should not be accepted in a naive way, but be rooted in critical consciousness. (Holloway, pp. 148-150).

**Triangulation** is a process which is expected to improve the validity of the study through investigation from different perspectives. Three main types of triangulation are recognised:

1. *between-methods* (inter-method/cross-method) triangulation. Here the findings obtained by one method is confirmed by another.

2. *within-method* (intra-method) triangulation, where the researcher adopts different strategies but stays within a single paradigm. This is also related to *data triangulation*, where researchers gain their data from different groups, locations and times. *Theory triangulation* is the use of different theoretical perspectives in the study of one problem.

3. *investigator triangulation* means that more than one researcher is involved in the research. (Holloway, p. 157).

**Validity** is important for establishing the truth and authenticity of a piece of research, together with reliability. Qualitative researchers do not insist on statistically measured varieties such as *predictive validity*, *construct validity*, *concurrent validity*. They give high priority to *internal validity*. Researchers demonstrate that they present the reality of participants through a coherent storyline and excerpts from interviews, detailed description of the decision trail and
field notes. External validity is enhanced when researchers choose a situation which lends itself to thick description, on the basis of which the reader can form his judgement.

Rather than using terms such as validity and reliability, qualitative researchers use the notions of trustworthiness and authenticity. The elements of trustworthiness are:

1. **Credibility**, enhanced by: triangulation, member check and peer debriefing.
2. **Transferability**
3. **Dependability**, demonstrated through audit trail.
4. **Confirmability**.

The components of authenticity are:

1. **Fairness**
2. **Ontological authenticity** (helping participants to gain an understanding of their human condition through the research)
3. **Educative authenticity** (the understanding that individuals gain should enhance the way in which they understand other people.)
4. **Catalytic authenticity** (decisions made by the participants should be enhanced by the method of inquiry.)
5. **Tactical authenticity** (the research should empower the participants. The action of the participants should have an impact on their lives.) (Holloway pp.159-162)

The investigator was lucky to get an up-to-date clarification of some important points through the availability, at the time of typing the final draft of the thesis, of the latest book of Silverman (2000), an authority on Qualitative Research. He has not only spelt out the varieties of qualitative research, but even shown that a
qualitative researcher may be able to convert even a 'defect' or 'inadequacy' into a 'finding'. In a study conceived in such breadth as the present one, and in which, along with several new and significant findings, some defects were also inevitable, this book came not only as a consolation, but as a strategy for penetrating even into the defects, and salvaging some worthwhile findings, not originally contemplated. An example is provided in the steps he reports in GEORGIA'S RESEARCH DIARY

1. The work setting
2. Trying out studying it
3. Looking for a new perspective
4. Finding and intellectual home : serendipity
5. Getting comfortable in the new home
6. selecting data and a research problem
7. Initial disappointments with the data
8. Turning the ‘inadequacy’ of the data into a ‘finding’
9. Refining the research problem and approach

Silverman has presented several other diaries and cases which could shed valuable light even though coming at the last minute. Georgia's 'findings' pertain to the pilot study findings, the inadequacies in which could help to refine the problem and approach. In the present case, the question of redefining the problem or readapting the approach and methodology did not arise because the work was completed. Yet, like Abraham's last minute vision in the Mount oria, new treasures were found in the complex maze of findings that ensued (in contradistinction from he neatly designed single hypothesis-guided studies, and it was possible to refine the presentation of some of the models and refine the concluding chapter.
D. A BRIEF STATEMENT OF THE METHODS COMMONLY USED IN EDUCATIONAL RESEARCH

Some authors would call these the 'scientific research methods'. But then, the historical method has a philosophic and even an artistic side in historical criticism and in historiography, though 'science' is involved in data collection and processing. Hence the attribute 'commonly used' is adopted. Since these methods are known very well in educational circles, the treatment is very brief.

The Three Common Methods and Extensions:

Most authors writing on educational research methodology agree on three basic categories in the scientific research (Mouly p.198):

- **Historical**, which is concerned with the past and which attempts to trace the past as a means of seeing the present in perspective.

- **Descriptive/Survey**, concerned with the present, attempting to determine the status of the phenomenon under investigation.

- **Experimental**, which is oriented toward the discovery of basic relationships among phenomena as a means of predicting and, eventually, controlling their occurrence.

Mouly adds that Cornell alone mentions 'construct-making' as a method by itself.

*Historical research* is meant to delve into the past. The historical method has three aspects: (1) **Sources** - (a) primary, which include relics and records left by an original witness to the event and (b) secondary, which are based on reanalysis, elaboration and synthesis based on primary sources. (Primary sources provide the
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firm foundation to history, though secondary source might add insights in the interpretation stage) (2) Criticism - (a) external, going into the authenticity of the data and (b) internal, appraising the worth of the data; (3) Historiography, or the writing of history (Historians refer to several schools of history: The Biographical or "Great Man" theory (Carlyle), the Geographical theory (Buckle et al.), the Spiritual or Idealistic theory (Hegel), Economic school of historical interpretation (Marx), the Scientific and Technological school, the Sociological interpretation of history and the more recent synthetic, eclectic and pluralistic theories ( ). Several critical, hermeneutic and reformistic schools are now emerging.

Among the categories of descriptive studies Mouly mentions the following sub-categories.

Descriptive, which includes
- survey testing
- questionnaire
- interview.

Analytical, which includes
- documentary frequency
- observational
- rating
- critical incident
- factor analysis
- School surveys
- Social surveys
- Genetic

Descriptive research is concerned with the analysis of the relationships between non-manipulated variables and the development of generalisations, extending its
conclusions beyond the sample observed. When it is conducted with a view to arriving at norms it is called normative survey. When the relationships are focused, some would split causal-comparative and correlational studies as sub-categories. Some would put case study as a sub-category under descriptive studies. If the normative study can be compared to a long-distance photograph of a total lay-out, the case study can be compared to a close-up photograph.

Descriptive studies use a number of data collecting tools such as questionnaire, observation schedule, interview schedule, scales (for measuring attitude and other components), inventories (for interest, many personality traits), tests of intelligence, achievement, aptitudes. In many quantitative studies standardised tools with statement of norms and reliability/validity coefficients are preferred.

Analysis is not only a preliminary step to all research methods, but is also recognised as a method by itself. Many descriptive investigations are highly analytical in character and sometimes have been characterised as "analytical studies" (Good, p.194). Since most educational problems are too broad to be attacked as a unit, they must be analysed into their constituent parts as the preliminary step to deriving significant relationships among them, to isolating relevant from irrelevant aspects, and to structuring them in their scientific contexts. Aspects like analysis, observation and interview are covered in qualitative as well as quantitative approaches. Where penetration beyond the surface levels, immersion in the context and interactive aspects are focused, qualitative methodologists display greater depth.
Case studies can be used for two purposes - either to reduce the scale of the research by focusing on fewer units or to increase the range of units within the study. By selecting a number of case studies it is possible to concentrate the research resources and thus to look in some depth at a particular problem or issue, perhaps considering how it is treated in different circumstances. In such research, the case studies will be selected to be broadly representative of the large group from which they are drawn as much will depend on the degree to which it is possible to generalise from the particular results. In essence it allows the researcher to focus on something which is sufficiently manageable to be understood in all its complexity (Moore, 1987 pp. 46-47).

Experimentation is the most scientifically sophisticated research method. Actually, despite its scientific rigour, experimentation is only one aspect of scientific method, for the scientific method involves a great number of activities of which experimentation is simply an important form. Mouly (1964) classifies the experimental study under the following headings:

- Simple experimental designs
- Multivariate analysis
- Case study
- Predictive (correlational)

The last two sub-categories are placed under either descriptive or experimental research according to the perspective and level of sophistication of approach.

According to Best and Khan the experimental method provides a logical, systematic way to answer the question “If this is done under carefully controlled conditions, what will happen?” To provide a precise answer, experimenters manipulate certain
influences, or variables, and observe how the condition or behaviour of the subject is affected or changed. Experimenters must understand the hazards and limitations in their study and interpret the results cautiously.

Experimental design relates to the procedures which enable the researcher to test the hypotheses by reaching valid conclusions about relationships between independent and dependent variables. Selection of a particular design is based upon the purposes of the experiment, the type of variables to be manipulated and the conditions or limiting factors under which it is conducted.

Best and Khan present three categories of experimental design:

- Pre-experimental design
- True-experimental design
- Quasi-experimental design

The following symbols are used to depict the various experimental designs:

- **R** - random assessment of subjects to groups or treatments
- **X** - exposure of a group to an experimental variable
- **C** - exposure of a group to the control or place to condition
- **O** - observation or test administered.

1. **Pre-Experimental Design:** This is the least adequate of designs, characterised by the lack of a control group or a failure to provide for the equivalence of a control group.

2. **The One-Shot Case Study:**

   \(
   \text{X O} \quad \text{(Experimental variable followed by observation)}
   \)
Carefully studied results of a treatment are compared with a general expectation of what would have happened if the treatment had not been applied. This design provides the weakest basis for generalisation.

3. *The One-Group, Pretest-Post test Design:*

\[ O_1 \times O_2 \quad (O_1 = \text{pre-test}; X = \text{experimental variable}; O_2 = \text{post test}) \]

This design provides some improvement over the first, for the effects of the treatment are judged by the difference between the pre-test and the post test scores. No comparison with a control group is provided.

4. *The Static Group Comparison Design:*

\[
\begin{array}{c}
\times \\
C
\end{array}
\quad
\begin{array}{c}
O \\
O
\end{array}
\]

This design compares the status of a group that has received an experimental treatment with one that has not. There is no provision for establishing the equivalence of the experimental and control groups, a very serious limitation.

5. *True Experimental Design*

In a true experiment the equivalent of the experimental and control group is provided by random assignment of subjects to experimental and control treatments.

\[
\begin{array}{c}
O_1 \\
O_1
\end{array}
\quad
\begin{array}{c}
C \\
X
\end{array}
\quad
\begin{array}{c}
O_2 \\
O_2
\end{array}
\]
6. **Quasi-Experimental Design**

These designs provide control of when and to whom the measurement is applied, but because random assignment to experimental and control treatments have not been applied, the equivalence of the groups is not assured.

Cohen and Manion (pp. 165-69) devote a full chapter on "Experiments, Quasi-Experiments and Single-case research". They present designs in educational experimentation such as (1) A pre-experimental design: The one-group pre-test-post-test, (2) A ‘true’ experimental design: The pre-test-past-test control group design; and (3) A quasi-experimental design: The non-equivalent control group design.
E. THE METHODS ADOPTED IN THIS INVESTIGATION

In the present study, the newly emerging qualitative approaches were applied with depth as formulated by its best exponents. The conventional methods in educational research were used with less rigour, but with sufficient care to enable trustworthy conclusions to be drawn. As the study is conceived in breadth, a large number mini-studies form part of this investigation and these were synthesised progressively. Qualitative methodologists prefer purposive and theoretical sampling and improvised tools. Even the conventional research methods adopted did not use standardised tools. The type of tools prepared by the investigator were, however, relevant for the purpose of testing the hypotheses.

Historical approach is not used explicitly as a method of investigation contributing new findings, though in interpreting historical material occurring in tracing the history of music and music education, the historical perspectives and procedures are used to the extent relevant. Some models were drawn from episodes in the history of music and of the lives of musicians. Here the interpretation of history and the school of historiography adopted would be relevant. Such applications are discussed along with the results of the study.

Survey type studies were found relevant for testing the hypotheses such as the dull, mechanistic routine in the typical Kerala school till recently, the continuation of the same arid climate at the upper primary and high school levels and the prevalence of a certain amount of 'external' animation in the lower primary level as
the result of DPEP campaigns. Interviews, observations and documentary surveys were the main techniques adopted for the purpose. A series of judgement schedules and expressionaires were also used as tools in the study. Many of the models and other constructs developed were validated through consensus with expert panels varying in number from twenty to fifty. The expertise level was also varied. Here too relevance, competence to judge the issue and willingness to spend the time were the criteria.

**Analytical Studies** constitute the most important segment of this investigation. The essential part of the study was to analyse music in its various dimensions on the one hand and to analyse education on a wide spectrum on the other. The expectation was that the matching of the two analyses would help to generate many relevant models. A large amount of documents relating to Western and Indian music, musicological literature, enjoyment of music, music treated in interdisciplinary ways were analysed. The material presented under review of literature were also subjected to deeper analysis from the point of view of extracting models. Documents pertaining to the state of education — as it is and as it can be — were also analysed. Documentary analysis at the surface level could be managed even within conventional frameworks of research, but as one goes to the depths, the research tended to become more and more qualitative and even phenomenological. It has already been discussed that *content analysis* has been dealt with in depth by qualitative methodologists. But content analysis is a broad term. It gets broken down in operation into analysis of content, structures, situations, interactions and a host of other components. The analysis of texts in music lead gradually to analyses of pretext, context, sub-text and inter-text.
Experimental Studies become relevant to check hypotheses such as:

1. The typical class-room in Kerala presents a dull, drab, deadening climate.
2. Music, either as a subject, or as an animating mode, has a very low place in the schools of Kerala.
3. (a) The District Primary education Programme (DPEP) promoted during the past four years has introduced a lot of singing and activity in the lower primary education; but (b) the animation is by and large on the external side; the 'inner animation' characterising modern music education in progressive systems is yet to take off; (c) except where very competent and understanding teachers are present, this animation is at the expense of the basics of education; the dialectics of "the Child and the Subject" is yet to be recognised and resolved.
4. At the Upper Primary and High School Levels, even this external animation has not yet set in.

The sophisticated experimental designs with experimental and equivalent control groups with pre-test and post-test were not adopted. In this study the construction of models were the primary concern and testing was only secondary. Even an informal pre-experimental design could give evidence about the feasibility of a model. In actual practice, some models were tested through the one-shot experiment and through one-group pre-test-post-test method. These methods have their limitations, but considering the number of models evolved the simple feasibility level testing, backed by expert consensus was considered a reasonable target. Besides, clinical practice draws conclusions from one-group-pretest-post-test models even without setting up control groups. Here too, if long-standing chronic maladies are shown to respond to ‘music-cure’ valid conclusions can be drawn that musical animation is effective.


Some Heterodox Approaches even within conventional Methodology

Even before books on qualitative approaches began to appear in considerable number and depth, works on educational research methods deviating from orthodox point of view. The work of Gephart and Ingle (1969) presents some of these and the papers which influenced the approaches in the present study are briefly summarised.

Construct-making itself as a method:

The main concern of the study is the making of models and constructs. In addition to Mouly’s reference to Cornell recognising ‘construct-making’ itself as a research method, the investigator was able to get Cornell’s paper in original during the course of the research (Gephart and Ingle, pp. 15-26). The paper entitled “Productive Methods in Research” opens the change of emphasis “From ‘Gadgetry’ to Research Ends”. He classifies usual research methods as Descriptive, Metric, Clinical, Correlational and Experimental, and adds “a sixth, which would be those types of techniques which are theoretically derived and which consist of theory construction or model building and the verifiability of theoretical systems”. This provides a justification for the investigator’s approaches, even apart from invoking the newly emerging qualitative methodology.

Within his five-fold classification, Cornell calls attention to the fact that clinical methods place primary emphasis, not on a population of subjects, but only on one or a very small number. These are usually intensive studies of individual cases. the interest is 'clinical' rather than 'actuarial' . Cornell also focuses "Action research". Corey’s definition of it as "research undertaken by practitioners in order
that they may improve their practices' forms the starting point. But Cornell sees
the action research movement as a campaign for more systematic evaluation and
the application of more rigorous methods to the improvement of actual operating
situations of school systems. In this context, Cornell adds:

There is undoubtedly a great deal of justification for such ‘one-trial experiments’
for the simple reason that so little is known about so many aspects of education.
Furthermore, large-scale experimental designs involving an adequate number of
properly selected groups of students or school systems is costly and beyond the
scope of the resources available in educational research at the present time. The
‘case-study’ or ‘single-subject-experiment’ is one of the alternatives to the
researcher who wishes to study human phenomena in the totality of the real
situation.

Cornell also cites with favour Greenwood’s concept of “the trial and error
experiment”, relevant in sociological studies. In discussing the ‘single variable’
experiment which was a popular educational research device around 1950, Cornell
notes the objection arising from a break from atomistic theories of education.
Educators holding holistic views began to ask more complex questions than could
be answered in such a simple design.

This, together with the psychology of creativity, and the disclosure of creativity
through music and some insights drawn from qualitative methodology helped in
developing models.

Multiple Working Hypotheses

Many educational studies work on the model of pure sciences, confined to testing
single hypothesis. But education is a complex applied field where the effect of the
simultaneous operation of several forces is of vital interest. Chamberlain’s paper (in
Consciously followed, the method of the working hypothesis is an incalculable advance upon the method of the ruling theory, but it has some serious defects. One of these takes concrete form, as just noted, in the case with which the hypothesis becomes a controlling idea. To avoid this grave danger, the method of multiple working hypothesis is urged. It differs from the simple working hypotheses in that it distributes the effort and divides the affections... The investigator thus becomes the parent of a family of hypotheses, and by his parental relations to all is morally forbidden to fasten his affections unduly upon anyone.... One of the superiorities of the multiple hypotheses as a working mode lies just here. In following a single hypothesis, the mind is biased by the presumptions of its method toward a single explanatory conception... This is especially true when the research deals with a class of complicated phenomena.

**Strong Inference**

The paper of Platt (in *ibid.*, pp. 65-80) attempts to impose some seminal ideas from research in molecular biology and high energy physics into educational research. Summarised in popular terms, the message of the paper is that instead of doing hundreds of experiments designed to test relatively light hypotheses, if one stops experimentation for some time, collect a variety of hypotheses, select the those with the highest density and richness, a few experiments would be able to give far more valuable results. The three papers summarised above from Gephart and Ingle lend justification to the methodology followed by the investigator.

In education and the other social sciences experiments are designed to test hypotheses, but the hypothesis-making itself is covered under the broader unit of experiment. In the history of physical sciences there are some cases where the unique contribution is the designing of ingenious experiments, and other cases where the main contribution is the formulation of a novel hypothesis.

*Methodology*
making study, the formulation of new constructs and hypotheses is itself a major contribution. Of course, the steps for creating a hypothesis cannot be clearly laid out as the convergent steps in other methods. Psychologist analysing the process of creative thinking state that new hypotheses often emerge in a period of ‘inspiration’ following periods of ‘preparation’ and ‘incubation’. (It needs to be followed up by the stage of ‘verification’). But the sudden emergence of the hypothesis itself may not be under the conscious control of the individual scientist. Industrial managers attempt some special techniques to provoke the creative movement. When a scientist is blocked for a long time in the incubation period, failing to produce a breakthrough hypothesis, he is advised to stop thinking about the scientific problem and read Shakespeare or listen to classical music.

Qualitative Procedures formed the major segment of the methodology in this study. Since they have been explained in detail earlier in this chapter they are not repeated here except to the extent of focusing one or two points. The textual analysis concept including analysis of text, con-text, pre-text, sub-text, and inter-text described earlier carry literary criticism analysis into social settings. When carried into music and education, a large number of new models came up, which are best described along with the results. The hermeneutic interpretations take new dimensions when music is analysed in terms of meaning – bringing to bear the intersections with linguistics, literary theory, psychoanalysis, psychology, culture theory and a host of other disciplines. Interactional approaches, dialogic approaches, fusion of horizon and other intricate concepts revealed new meanings in the course of the study, not only in the researcher-participant interaction, but also in the interaction with music itself. Structural analysis of ragas, talas, harmony,
counterpoint, various genres of music, analysis of 'content', not only of music and the related literary texts, but also of the emotions, of the experiences with the surface and deep self, blended with deeper educational analyses took the investigator into deeper realms than were originally contemplated.

Validity was checked through such techniques as peer debriefing and triangulation — inter-method, intra-method and inter-investigator. Since qualitative research involves the participants too as researchers, the inter-investigator triangulation brought out deep insights confirming validity on a high plane. Experts in music and literature who have been on the field for decades confessed that responding and interacting in the course of this research helped them to see their field in a new light. Such eureka experience was felt by the investigator and the research guide too on several occasions. The young respondent-participants also expressed eureka experience in their own language — sometimes in the innocence of the language of babes and sucklings. A qualitative investigator would give credence to such spontaneous trustworthy responses than to sophisticated forms of statistical validity coefficients. In any case these were the types of validity relevant for the present study.

The 'immersion' of qualitative researchers in participant research has a much higher complexity than what conventional educational research can manage or even conceive. When it involves immersion in music too, one reaches altogether new realms. Deep phenomenological approaches bridging science and philosophy also opened themselves. The perspectives and caution obtained through a careful
reading and contemplation of qualitative research did help a lot in going through all these phases and coming out of these to produce the research report.

In addition to the animation models developed and tested, collateral readings on Music and Meaning, Music and Cultural Theory, Modern Physics (of the relativistic era) and Music and Polyaisthesis, unifying the arts and sciences served as a kind of 'rod and staff' as the investigator was led through the dark mazes of this study and helped in the final synthesis of the models.