Chapter IV

METHODOLOGY

The methodology for a study has close relation to the overall approach in the research perspective and context in which it is conducted. This study is concerned with enlivening the teaching of Malayalam poetry and to the extent to which even prosody rules had to be taught, to see that even the cognitive dimension embedded in the rules can be taught in live ways without deadening – and if possible reinforcing - the spirit of poetry. Another problem is that during the last one-third of the research period the revision of the curriculum removed the obligation to formally study the vṛttam rules. But the topic still remains relevant because the enactive-iconic dimensions still remained intact and the teacher still had the option to use the experience to realise several symbolic learnings, though he is not obliged to do so.

This necessitated the use of multiple approaches in the research design and not stick on to the testing of a single hypothesis as most researchers working on the purely positivist paradigm do. Qualitative approaches were also used that could permit adaptation to multiple and changing conditions. Hence the multiple methodology used is first presented in a summary statement and elaborated later.

BRIEF STATEMENT OF METHODOLOGIES

The major methodologies used are

1. Historical, especially about Malayalam metre, and about how rhythm and metre can be used to enrich not only language teaching, but all education.

2. Analysis of a large number of poems and rhythms in the texts to identify the rhythms, more particularly analysis of the Kārikas to draw
out how the symbolic rules are embedded in them and also how when chanted effectively, the rules are in fact in the enactive form, but many people have not noticed this at all.

3. Observational analysis of 49 teachers teaching poetry, with the number of observations amounting to over 500, were made by B.Ed. trainees to appraise the way teachers were teaching Malayalam poetry. This is a formal application of the Survey method.

4. In point 2 it was stated that the enactive forms of the symbolic rules are embedded in the kārika. It was hypothesised that if iconic bridges are built to connect the enactive form and symbolic statement in the Kārika children can master all aspects of the vṛttam rules. Hence, based on the analysis stated above a number of constructs were built, to make the teaching of Malayalam poetry enjoyable and effective. The building of new and effective constructs in the teaching of Malayalam constitute an important contribution in this study.

5. The pupils entering Class 8 in June 2002 and after are not required to study the symbolic rules stated in the kārikas. So the bridge constructs stated in 3 above does not apply to the pupils in the last phase of the study the constructs bridging enactive and symbolic do not apply. But still simpler constructs were formed strongly focussing enactive and iconic forms without necessarily leading to the symbolic vṛttam rules.
6. The enactive-iconic-symbolic constructs referred to in 3 were tried out experimentally with B.Ed students taking Malayalam optional with success. At this point no statistical analysis was attempted.

7. An experiment was conducted in 20 schools to test the effectiveness of the constructs developed to make the teaching of Malayalam poetry enjoyable and effective. All of them were analysed but only 10 are presented in the thesis along with t-test to find out significance of difference of correlated means. In this experiment the survey tools referred to in 3 (observation of teacher behaviour in poetry teaching by 49 teacher trainees using Part II of the schedule) and in 8 just below provided the data on improvement as a result of application of the improved constructs.

8. Questionnaires were administered to pupils (N=720) to elicit their views and their progress as a result of the intervention. This is a second formal application of the Survey method.

9. Plenty of qualitative analysis were also conducted to enrich the findings.

Before stating the methodology in detail it would be useful to recapitulate the objectives and hypotheses stated in Chapter 1

OBJECTIVES OF THE STUDY (Restated to check the relevance of the methods for the purposes of the study)

1. To survey the way in which Malayalam poetry and prosody were taught in high schools till about five years ago and also how they are being taught now.
2. To review the literature on animatory approaches to teaching, particularly in various forms of rhythm, poetry and music.

3. To find some application of the seminal ideas of some modern psychologists such as Bruner and Maslow in order to make the teaching of Malayalam poetry more enjoyable and effective.

4. To develop enactive models of teaching Malayalam poetry at various levels.

5. To develop iconic models of teaching Malayalam poetry at various levels.

6. To develop ways of helping pupils to master even the symbolic forms of prosody effortlessly through Brunerian iconic-enactive-symbolic sequence (with reference to the syllabus in vogue in the high schools during the first three years of the present study).

7. To explore the ways in which rhythmic activities (embedded in the Malayalam syllabus) – both in the old scheme and in the current scheme could be modelled to trigger peak experiences and ecstasy in education.

8. To explore the ways in which the models as developed above (particularly with reference to objectives 6 and 7) could carry beyond the Malayalam classroom and enrich even other subjects in the curriculum.

9. To experimentally try out the models in schools and to evaluate the results.

10. To synthesise the results and envisage some futuristic scenario relevant for language education and integrated education.

HYPOTHESES (Restated to work out the relevant methods)

1. At present (during the first phase of the study) the teaching of Malayalam poetry in schools is done in prosaic ways by the majority of teachers.
This was tested through informal (participant and non-participant) observation, interview and discussion and partly from the formal schedules used.

2. The drawing out of the potential joys inherent in poetry is absent in most schools.

This was also tested through informal (participant and non-participant) observation, interview and discussion and partly from the formal schedules used.

3. Some innovative approaches (like DPEP) which gave a lot of importance to song, dance and drama at the primary school used surface level animation by most teachers without drawing out the deeper educational potentialities as has been demonstrated by modern music educators and creative movement educators.

This was tested through secondary analyses, of materials such as Manuel’s study on DPEP (2001)

4. It is possible to prepare animatory constructs in Malayalam based on the ideas of Bruner (Enactive, Iconic, Symbolic), Maslow (Rhythmic experiences triggering peak activities), the Soviet and Hungarian schools, experiences in British schools etc.

This was tested through reanalysis of the material presented in Chapters II and III – conceptual review and review of related studies.

5. If taught by a model of applying Brunerian enactive-iconic, symbolic sequence in the teaching of Malayalam prosody, pupils will make significantly and markedly greater mastery than when they learn by the routine prosaic method.

This was tested with the help of a one-group pre-test-post-test experimental design in 20 schools with a total sample of 720, of which the results of 10 schools only are presented in detail.
6. If such constructs are applied in schools

   a. children will enjoy learning
   b. they will achieve more
   c. both pupils and teachers will understand difficult concepts associated with vruttam rules which they have been memorising without understanding
   d. there will be some incidental transfer of higher objective of learning into other subjects, particularly mathematics.

This was tested through qualitative approaches including non-participant observation, reacting with pupils on equal terms, naturalistic inquiry without disturbing the setting and so on.

The change of the curriculum in the high school in June 2002 has several implications for the objectives and hypotheses as originally formulated. [These will be more specifically spelled out and findings stated in the methodology and results chapters.]

DETAILED STATEMENT OF METHODOLOGY

1. **Historical method** was used to study the evolution of Malayalam metre. This was done using several secondary sources by eminent authorities, of whom N. V. Krishna Warrior and S. Subrahmaniyam. In fact a plethora of materials were available in this area. Hence a lot of ‘internal criticism’ had to be applied in order to appraise the worth of the materials and mention those which will have at least indirect relevance for this study.

2. **Analysis** as used in the study included textual analysis, rhythmic analysis, metrical analysis of verses, analysis of chanting modes,
analysis from the point of view prosodic rules, ga, am splitting, time keeping – with various kinds of drums etc, various kinds of movements and dance forms. It also involves conceptual analysis of prosodic rules as well as modern ways of exploiting musical rhythms for various educational purposes as reviewed in Chapters II and III. Analysis also includes teacher behaviour from the point of teaching Malayalam vrttams in the conventional as well as animating ways.

3. **Building of Bridging constructs** was an important aspect of this study. Actually hypotheses are used in experimental studies and sometimes in other types of studies too. Some experimental researchers draw the constructs from other sources and test them. Most often researchers formulate hypotheses which do not require any high level of intellectual constructivism; e.g., There will be significant difference between CAM and AOM in the teaching of chemistry, There will be significant sex differences with reference to the improvement as a result of the intervention etc. In such cases the researcher needs to note only experiment as the method. But great scientists are remembered not so much for the experiments as for the innovative constructs and hypotheses which they created, which were later tested in the experiment. It may be noted that among the various research methodologists, Cornwell alone (cited by Mouly) recognises ‘construct making itself as a method of educational research. The bridge constructs are presented in full detail in Chapter V illustrated with pictures and tables. The constructs made for the old curriculum (first two-thirds of the period of research) required a higher level of intellectual operation than those used for the present curriculum (last one-third of the research) are much simpler. It is in the constructs for the old curriculum (up to SSLC 2004) that constructionism of a high
order came into play. These were developed by Manuel (1987) when Professor S. Sreedevi taught him Vṛttamanjari rules and it occurred to him that the symbolic rules are deliberately embodied in the rhythm of the kārikas as they are rhythmically recited and he built iconic bridges to make the transition from the enactive to the symbolic. Even a poet-musician of the calibre of Professor Madhusudanan notes that this contains a major innovation in teaching Malayalam prosody. But Dr Manuel argues that equal credit should be given to his teacher in this field, Professor Sreedevi. In this study, besides the constructs developed by Manuel, some new adaptations were also developed in collaboration with the participating pupils. All these aspects are described in Chapter V and illustrated with structured tables and pictures, and hence only a small segment of the construct set is presented here to give a rough idea of the symbolic-iconic-enactive modes of the gāamdams.

The eight gāamdams as arranged by A.R. Rajaraja Varma were rearranged by Manuel in a different order for training B.Ed. students, who had much better mastery than him of Malayalam language and literature, including poetry, but were lacking in analytical knowledge of vṛttam rules: Manuel’s order was ma, bha, ja, sa, na, ya, ra, ta – which had a neatly balanced sequence of: (a) Guru: all, first, middle, last: (b) laghu: all, first, middle, last.

<table>
<thead>
<tr>
<th>SYMBOLIC FORM</th>
<th>Iconic form</th>
<th>Enactive Form (as vāyttāri)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA</td>
<td>-----------</td>
<td>TOM TOM TOM</td>
</tr>
<tr>
<td>BHA</td>
<td>= =</td>
<td>TOM KI¶A</td>
</tr>
<tr>
<td>JA</td>
<td>= V</td>
<td>TOM TA TOM</td>
</tr>
<tr>
<td>SA</td>
<td>= = V</td>
<td>KI¶A TOM</td>
</tr>
</tbody>
</table>
Manuel also chose wherever possible vṛttam forms from Rajaraja Varma which illustrate a single gaṇam as the dominant one – so that the enactive form of each gaṇam will immediately get associated with the symbolic.

More refined constructs were also developed. They are shown later, particularly in Chapter V along with the Findings.

Manuel used such constructs for training for training the B.Ed. students. The major adaptation done by the investigator was to make the enactive form more attractive for use by young children. Manuel used mainly tapping and vāyttāris as enactive form and – v forms for guru laghu (long short) for training B.Eds.
The investigator adapted Manuel’s models to more animating forms which will appeal to children more directly as shown by the following pictures. The full set of pictures with clear statement of what they denote is presented in Chapter V: only three examples are shown here to indicate how the investigator made her own adaptations in this study.
Several refined constructs followed from Manuel’s interaction with the B.Ed students (Malayalam elective) and formed the basis of the
experimental constructs as well as the pupils’ questionnaire (schedule). (See 4 below for the refined constructs)

4. The study used **survey method** in various forms. Of these one formal survey using a **printed schedule with a sample of 49 B.Ed. students** trained in observing teacher behaviour and pupil behaviour in teaching and learning vrttams. Though the number of observers is only 49, the number of observations of lessons is **over 500**. Another formal **survey using a printed schedule** was administered to **720 pupils**. These schedules were made so thoroughly analytical that they had an educative value in themselves. They had the potential for yielding valuable findings by themselves when analysed item-wise as well as in terms of total scores.

A brief note about the observation schedule will help to understand about the major printed survey tool used for the quantitative study. The first part of the observation schedule items are all based on an analysis of existing practices till about four years ago in the high school Malayalam classes. The B.Ed. students trained by the investigator attached to different schools observed several lessons given by a teacher and came to a consensual judgement which is analysed here. So, though N (number of teachers observed) is noted as 49, the number of observers is nearly 500 and the number of different lessons observed would come to much over a thousand.

The items presented in the schedule are:

<table>
<thead>
<tr>
<th>No.</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Commonly done Practices</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Tell the children the name of vrttam</td>
</tr>
<tr>
<td>2.</td>
<td>Tell the kārika</td>
</tr>
</tbody>
</table>
## Methodology

### 3. Tell the laksha am in prose

### 4. Give importance to children memorizing the kārika without understanding

### 5. Explain meaning of kārika very clearly

### 6. Ask pupils to recite the kārika

### 7. Ask the pupils to identify the name of the var, am among different vṛttams

### B. Special Practices

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Write the vṛttam on the blackboard and divide the ga, am in vertical lines</td>
</tr>
<tr>
<td>2.</td>
<td>Mark guru(−), lekhu (V) over it</td>
</tr>
<tr>
<td>3.</td>
<td>Use mnemonic rule to remember each Symbol (ya, ra, tha, bha, ja, sa, ma)</td>
</tr>
<tr>
<td>4.</td>
<td>Connect the chain of ga, am symbols and tail symbols (G, LG, GG) with the symbols are connect with kārika</td>
</tr>
<tr>
<td>5.</td>
<td>If the students have not mastered it explain the eight ga, am with visual pattern and symbols</td>
</tr>
<tr>
<td>6.</td>
<td>Train children to look for the symbols inside the kārika</td>
</tr>
<tr>
<td>7.</td>
<td>They should know the twisted form of symbols</td>
</tr>
<tr>
<td>8.</td>
<td>Write the ga, am name for each triad visual and – V pattern and note ga, la for the siṭṭam.</td>
</tr>
<tr>
<td>9.</td>
<td>Teacher recites the vṛttam or the kārika so that the enactive form of the ga, am stand out. (If necessary breaking the words)</td>
</tr>
<tr>
<td>10.</td>
<td>The teacher encourage the students to clap, to tap and dance to hear the enactive patterns.</td>
</tr>
<tr>
<td>11.</td>
<td>The teacher use special vaithāri for the enactive ga, ams (tom, tom, tom)</td>
</tr>
<tr>
<td>12.</td>
<td>Teacher uses a chart containing the symbolic, iconic and vaithāri.</td>
</tr>
<tr>
<td>13.</td>
<td>Show iconic forms with secants (●● = − ; ● = V)</td>
</tr>
<tr>
<td>14.</td>
<td>Play with children in close pairs and alone</td>
</tr>
<tr>
<td>15.</td>
<td>Secant count to help mṛtra, letter count in Dravidian vṛttam.</td>
</tr>
<tr>
<td>16.</td>
<td>Teacher encourage small groups play</td>
</tr>
<tr>
<td>17.</td>
<td>Teacher gives problems for students themselves to analyse vṛttams iconically or enactively and then put the poetry.</td>
</tr>
<tr>
<td>18.</td>
<td>Teacher presents the holistic vṛttam so that analytical method does not kill the spirit of the poetry.</td>
</tr>
</tbody>
</table>

### 19. The Final Recitation, the Meaning and Bhūvam should be given more important and the Prosody play quite background music.

The number of students who check each item and percentage will come in the last two columns.

The constructs developed as programmed steps for mastering vṛttams in the enactive-iconic-symbolic mode were refined further and
Methodology

Presented below. This analysis formed the basis of the Pupils' Self-rating Schedule:

1. **Write the Vatti Am on the Blackboard and Divide the Ga, Am in Vertical Lines**

2. **Mark Guru(-), Lekhu (V) over it**

3. **Use Mnemonic Rule to Remember Each Symbol (Ya, Ra, Tha, Bha, Ja, Sa, Ma)**

4. **Connect the Chain of Ga, Am Symbols and Tail Symbols (G, LG, GG) with the Symbols are Connect with Karika**

5. **If the Students Have Not Mastered It Explain the Eight Ga, Am with Visual Pattern and Symbols**

6. **Train Children to Look for the Symbols Inside the Karika**

7. **They Should Know the Twisted Form of Symbols**

8. **Write the Ga, Am Name for Each Triad Visual and - V Pattern and Note Ga, La for the Siattam.**

9. **Teacher Recites the Vatti Am or the Karika so that the Enactive Form of the Ga, Am Stand Out. (If Necessary Breaking the Words)**

10. **The Teacher Encourage the Students to Clap, to Tap and Dance to Hear the Enactive Patterns.**

11. **The Teacher Use Special Vaithiri for the Enactive Ga, Am**

12. **Thom, Thom, Thom**

13. **Teacher Uses a Chart Containing the Symbolic, Iconic and Vaithiri.**

14. **Show Iconic Forms with Secants (\(\bullet\bullet = -; \bullet = V\))**
1. PLAY WITH CHILDREN IN CLOSE PAIRS AND ALONE

2. SECANT COUNT TO HELP MITRA, LETTER COUNT IN DRVIDIAN VrTTAM.

3. TEACHER ENCOURAGE SMALL GROUPS PLAY

4. TEACHER GIVES PROBLEMS FOR STUDENTS THEMSELVES TO ANALYSE VrTTAMS ICONICALLY OR ENACTIVELY AND THEN PUT THE POETRY.

5. TEACHER PRESENTS THE HOLISTIC VrTTAM SO THAT ANALYTICAL METHOD DOES NOT KILL THE SPRIT OF THE POETRY.

6. THE FINAL RECITATION, THE MEANING AND BHVAM SHOULD BE GIVEN MORE IMPORTANT AND THE PROSODY PLAY QUITE BACKGROUND MUSIC.

The list of items presented above can be read as both a programmed construct for mastering vrtrtram rules as well as the most conceptual-pedagogical dimension in the Pupil questionnaire.

5. In addition to the major surveys using printed tools, a number minor and informal surveys were also conducted using interviews, observations, improvised schedules etc. mostly of a qualitative nature.

6. It was stated earlier that the analytical schedule itself based on deep constructs had high educative value. It was itself an experimental construct. A conscious and concentrated analysis of the steps involved a deconstruction, and if it was reconstructed the learner could master learning and teaching of vrttams. This was experimentally tried out with six batches of B.Ed. Malayalam elective students in St Joseph College for Women, Cochin 35. The total number of students involved was about 200. This was a kind of trial experiment. At this stage the schedule was not printed, but administered personally. The first few trials were initiated by Dr
Manuel, the supervising teacher. (At the later stages the investigator also took over.) The pretest consisted of reciting, or tapping of a sample of about 10 vrāttams. (While reciting the vrāttam itself in the verse form, care was taken to see that very well-known vrāttams which students had learnt to identify as example for a particular vrāttam was avoided. In tapping the rhythm of the vrāttam this control was not necessary. After counting the number of correct responses in the ‘pretest’ the vrāttam was gone through following each step in the analytical schedule with use of the blackboard for different models of iconic from and different forms of clapping or of tapping of the enactive form. Each gam form as well as combined vrāttam form was demonstrated. After the students had mastered the vrāttam another set of unknown vrāttams were tried out and the number of correct answers noted. All these aspects are shown in diagrammatic and tabular form. The responses before and after were such that it was possible to estimate the success of the schedule as a sequential teaching device even without statistical analysis.

7. From the model tried out the sequence in the programmed processing of the vrāttam was found effective and tried out as an experimental tool. Side by side the pupil rating tool and the teacher behaviour rating tool were also administered. It was thus tried out in 20 schools covering about 1500 pupils. The results were all consistent. So only ten are reported in Chapter V. The pretest and post test scores are based on the pupils’ scores in the self-rating schedule revealing an index of competences before and after the experimental intervention based on the programmed construct. Each pupil’s competence in each programmed facet was noted as well as the total score. The post-test – pretest mean difference in the total scores of pupils in
each school was tested for significance using t-test for correlated means. The significance o difference for each item in the programmed schedule was tested through non-parametric tests.

Besides the enactive-iconic-symbolic modes following the above technical analysis of $V_{\alpha TTAM}$ in term of metrical as well as pedagogic components (the ideas of Bruner) etc and its tryout with B.Ed. students and later with school pupils, it was possible to construct animatory constructs such as those based on Maslow, which will work. These are reported along with the findings in Chapter V.

Since qualitative methods also get intertwined with quantitative methods in this study a brief statement of qualitative methods in research is also made. Now books on educational research methods include a chapter or more on qualitative methodology (vide Best and Kahn, 2004). The analysis presented below is based on a paper presented by Manuel in a Research Method Seminar in an autonomous college in Salem.

It cannot be said exactly how the relevant methodology facet was applied at each point. The whole thing forms an integrated approach to research which will govern the total behaviour of the researcher. Here the researcher will not stand out as an external person observing the subjects in a detached, objective way. The researcher will participate with the ‘researched’ on equal terms. There can be frequent reversal of roles. But the whole procedure will go in a natural way without disturbing the setting. The resulting findings will not be neat and clear-cut. But it will be more trustworthy and transferable to real educational conditions in school and society.
Denzin and Lincoln (1988) describe qualitative research as a field of inquiry in its own right. It crosscuts disciplines, fields and subject matter. A complex, interconnected family of terms, concepts and assumptions surround the term ‘qualitative research’. Qualitative research, as a set of interpretive practice, privileges no single methodology over any other.

The **characteristics and aims of qualitative research** (Holloway 1997, Patton 1990, Denzin and Lincoln, 1988) include:

- Focusing on the everyday life of people in natural setting;
- Naturalistic inquiry - studying real world situations as they unfold naturally, non-manipulatively, unobtrusively, without predetermined constraints on outcomes; with openness to whatever emerges;
- Primacy of data: Theoretical framework is not predetermined. The data themselves generate new theoretical ideas, or they help modify already existing theories.
- Contextualisation: Researchers have to be sensitive to the context of the research and of people’s lives, locate the actions and perceptions of individuals and grasp the meanings that they communicate.
- Immersion in the setting in the real world of participants and target culture using the strategies of observing, questioning and listening. They thus make the strange familiar. But since over-familiarity may lead to missing important issues, they also ‘question their own assumptions and act like strangers to the setting.’
- The ‘emic’ perspective - a metaphor 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 tries to ‘uncover’ the meaning people give to their experiences. The researcher examines the situations, events and actions from the participants’ point of view and refrains from imposing his own perspective. (In the ‘etic’ point of view the researcher acts as an ‘outsider’ in order to make an ‘objective’ study.)
- Thick description - the detailed and vivid portrayal of the participants’ experiences, going beyond surface phenomena to their
interpretations, uncovering feelings and the meanings of their actions. It is a “deep, dense, detailed account 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 - a close and reversible relationship between the researcher and the researched. During interview the researcher as listener often becomes the learner, while the informant 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. Many hypotheses arise in the course of the research; the data help to generate the theory, which in turn helps in interpreting data.

♦ 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 reduced to a few discrete variables;

♦ Qualitative data - detailed 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 as situations change, avoiding getting locked into rigid designs, pursuing new paths of discovery as they emerge.
Qualitative methodologies have the following preferences as compared to quantitative methodologies:

- hypotheses that emerge as study develops;
- definitions in context or as study progresses;
- narrative/literary description of procedures and results;
- assuming that reliability of inferences is adequate;
- cross-checking the sources of information for assessing validity;
- expert informant (purposive) samples;
- logical analysis in controlling or accounting for extraneous variables;
- primary reliance on researcher to deal with procedural bias;
- narrative summary of results;
- holistic description of complex phenomena; and
- unwillingness to tamper with the naturally occurring phenomena.

Steps in qualitative research as listed by Fraenkel and Wallon (1993) are:

- Identification of the phenomenon to be studied: Research begins with research questions, which suggest foreshadowed problems reformulated several times.

- Identification of the participants in the study: the sample is a purposive one possessing certain characteristics relevant to the study. Random sampling is not ordinarily feasible. 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, though small, consists of ‘information-rich’ cases. Grounded theorists use the term theoretical sample.

- Generation of hypotheses as the study progresses.

- Data Collection is ongoing. The researcher is continually observing people, events and occurrences, often supplemented with in-depth interview of selected participants and the examination of relevant documents and records. Artificially controlled parallel group design is not done.
♦ Data Analysis: the information the researcher obtains from various sources is synthesised into a coherent description of what he has observed or otherwise discovered. Even when certain statistics are calculated, they tend to be used in a descriptive rather than an inferential sense.

♦ Drawing Conclusions: This is done continuously throughout the course of a study and more or less integrated with other steps in the research process.

Some of the steps, tools, approaches and refinements may be worth explaining further:

The instruments for data collection according to Fraenkel and Wallon 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).

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 (Holloway):

♦ Ordering and organising the collected material
♦ Re-reading the data
♦ Breaking the material into manageable sections
♦ Identifying and highlighting meaningful phrases
♦ Building, comparing and contrasting categories
♦ Looking for consistent patterns of meanings
♦ Searching for relationships and grouping categories together
♦ Recognising and describing patterns, themes and typologies
♦ Interpreting and searching for meanings
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:

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

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.

Context sensitivity is an important concept in qualitative research. Silverman (1993) points out that 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.

Subjectivity is seen by qualitative researchers in a slightly different way 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 should 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 reflect 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.

Some methodological aspects that get enriched in qualitative research are spelt out briefly:

**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. (Holloway).

**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). Literary theory has brought out an enormous amount of approaches
in this field are beginning to be applied by qualitative researchers. Derrida and Barthes are foremost among those who have contributed deep insights.

**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.

**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 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 that 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.

**Action Research** is often considered as research of very limited scope conducted by the practitioner himself. But a broad view of action research recognised by qualitative researchers is presented by Carr and Kemmis (1993) and others. Action research is viewed 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.

The manifold forms of action research now available are conveniently grouped into four types (McKernan, 1996):

Type 1: *Scientific action research* draws its inspiration from the scientific method of problem-solving applied in teaching and learning and in other social situations (Dewey, 1910, Lewin, 1947b, Corey, 1953). Of these Lewin’s model is explained briefly. Action research process is here conceived as a series of spiralling decisions, taken on the basis of repeated cycles of analysis, reconnaissance, problem reconceptualisation, planning, implementation and evaluation. The series of action advocated by Lewin forms a linear progression: planning, fact-finding, execution and analysis.
Type 2: Practical-deliberative action research aims at understanding practice and solving immediate problems. This model takes off from measurement and control for human interpretation, interactive communication, deliberation, negotiation and detailed description. It is tied up closely with human deliberation in matters relating to the curriculum. Joseph Schwab has contributed much to this type in the USA and Stenhouse in the UK. Teaching, according to this model, is inescapably a theoretical activity; the task of practitioners was to interpret their everyday practice in the pursuit of reflective self-development. According to Elliott the action researcher develops a personal interpretative understanding from working out practical problems; attempts to improve the quality of life in a social situation, endeavours to realize values in practice. David Ebbutt suggests, instead of the spirals, a series of successive cycles, each incorporating the possibility of providing evaluative feedback within and between the cycles of action.

Type 3: Critical-emancipatory action research. Carr and Kemmis (1986) have made significant contributions to this model. They summarise the objectives of action research in the pithy phrase: ‘to improve and involve’. It is an ‘approach’ rather than a method. The collaboration between researchers and practitioners is emphasised. Practitioners are also involved in the design, data collection and data analysis and evaluation. Critical inquiry enables practitioners not only to search out the interpretative meanings that educational actions have for them, but also to organise action to overcome constraints. Thus their theory is critical, linked with reconstructive action. The process of action research is conceived as a series of reflective spirals in which a general plan, action, observation of action and reflection on action is developed.

Type 4: Rational-interactive action research, a practical, dynamic model developed by Hopkins (1985), further elaborated by McKernan (1996). 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.
It is true that qualitative research, especially the type focussing on action, 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. They attempt to understand and improve practice and its context.

**Validation Procedures in Qualitative Research:**

Erlandson et al. (1993) clarify that in the naturalistic process of inquiry much attention is given to the problem of constructing and communicating reality. The formal jargon about different types of validity and reliability is underplayed. Everyday language like building trustworthiness, credibility, transferability, dependability, confirmability, and authenticity are used.

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.

*Triangulation* is a process which is expected to improve the validity of the study through investigation from different perspectives. Holloway recognizes five main types of triangulation:

- *between-methods (inter-method/cross-method) triangulation*. Here the findings obtained by one method are confirmed by another.
- *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.
investigator triangulation means that more than one researcher is involved in the research.

interdisciplinary triangulation: - The use of multiple subjects, disciplines or ideologies in a single problem.

The components of authenticity according to Holloway are:

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

Silverman (2000) points out that a qualitative researcher may be able to convert even a ‘defect’ or ‘inadequacy’ into a ‘finding’. In a study conceived in great breadth to be covered in a short period as the present one, along with several new and significant findings, some defects were also inevitable. Silverman’s approach helps to penetrate even into the defects, salvaging some worthwhile findings, not originally contemplated.

Denzyn and Lincoln present the metaphor of dance to illustrate qualitative research approaches. The qualitative researcher is very much like an artist at various stages in the design process, in terms of recontextualising the research project within the shared experience of the researcher and the participants in the study.

Even as the dancer begins with a warm up of the body, follows with floor experiences, then moves to a cool-down period, research is made up of three stages: First design decisions are made at the beginning of the study, second the total workload stage, and third, the dance decisions are made at
the end of the study. Just as the dancer relies on the spine for the power and coherence of the dance, the qualitative researcher relies on the design of the study. Both are elastic. The dancer who is centred thus moves in four directions: inward and outward, forward and backward. By inward is meant the internal conditions of feelings, hopes, aesthetic reactions, moral dispositions and so on. By outward is meant external reality. Backward and forward refer to temporality – past, present and future. Thus the researcher’s experience may be multifaceted.

It may be added that Indian dance metaphors – in terms of a·avus, mudras, nuances in bhavas, especially in padams and other expressive pieces and different dimensions of abhinayam and communication, subjective, creative and flexible interpretations etc may present more sophisticated and richer analogies.

Eisner’s vision of constructivism (In Guba and Lincoln 1989) emphasises connoisseurship or art appreciation. It is grounded in the ‘consummatory function’ of aesthetic knowing. The connoisseur’s eye is in a state of enlightenment. The qualitative inquirer is connoisseur turned critic. He reconstructs or transforms his perceptions into some representational form that illumines, interprets and appraises qualities. The narrative is not an iconic image or mirror of reality, but poetic.

Analysis, recognised even in conventional research methodology, takes on new dimensions in qualitative research. The essential part of the present study was to analyse poetic rhythm 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.