CHAPTER 2

METHODOLOGY

The methodology used for the present research is detailed in the following chapter. The section is organized under the following sub-themes:

- Research Design
- Sample
  - Criteria for Sample Selection
  - Sample Size and Distribution
- Tools for Data Collection
- Pilot Study
- Procedure of Data Collection
- Data Analysis

**Research Design**

The study attempted to gain deeper understanding into the way in which indigenous knowledge enters into thinking about children and guides practice with children. The study aimed to ‘locate Indian thought’ by attempting to gain an overview of Indian thought on curriculum, map the preferred curricular ideological positions of educators, teachers and parents of young children and examine the assumptions of select national documents on early childhood education, educators, early childhood teachers and parents of young children regarding:
• purpose of early childhood education
• views on children
• perspectives on learning
• concepts of teaching
• conception of knowledge
• beliefs about assessment

The research design was thus exploratory in nature. The study utilized a quantitative and qualitative approach, and the methods within each were dovetailed to the research questions.

Sample

Purposive sampling technique was used to identify the samples of the study. The sample for the study comprised of the following:

• Selected essays/documents/books or Indian thoughts on education
• Selected national documents on early childhood education
• Educators
• Early childhood teachers
• Parents of young children

The following were the criteria for sample selection.
Criteria for Sample Selection

Selected essays/documents/books on Indian thoughts on education: Conceptual overviews were derived through a literature review of educational ideas from the Vedanta and Yoga schools of thought. The selected documents, texts and essays were authored by scholars of Indian psychology, eminent educationists and thinkers. The broad points of inquiry were purpose of education, views on children, perspectives on learning, concepts of teaching, conception of knowledge and beliefs about assessment.

Selected national documents on early childhood: The documents that represented national visions and perspectives on early childhood care and education were reviewed for the study. The final selection of documents was based on the broader rubric of early childhood education as defined for the study, namely;

- purpose of early childhood education
- views on children
- perspectives on learning
- concepts of teaching
- conception of knowledge
- beliefs about assessmen:

The following were the selected documents:

- National Curriculum Framework for Teacher Education. NCTE, 2009
- Report of the working group on Child Rights. (For the 12th Five Year

- Five Year Strategic Plan (2011-2016) Ministry of Women and Child Development Government of India
- Integrated Child Development Services (ICDS), 1975

Educators, early childhood teachers and parents of young children were chosen from two cities of Gujarat, namely Vadodara (where the investigator was based) and Bhavnagar.

*Educators:* 50 individuals possessing a substantial experience in research, teaching or training of teachers were identified as educators. Majority of them had education, child development or psychology as their areas of expertise. Their work profiles ranged from retired professors, consultants, senior professors, school principals, supervisors and teacher trainers, active in public/private organizations and schools.

*Early childhood teachers:* 50 teachers who were trained in or possessed either a diploma/degree in early childhood education and were presently working with pre-primary sections of English and Gujarati medium schools were chosen to be part of the study. They had a minimum of two years and a maximum of seven years of experience in working with young children within a preschool setup.
Parents of young children: 100 parents; including 50 mothers and 50 fathers, having at least one child in pre-school and were active and voluntarily involved in a variety of school activities were chosen for the study. Early childhood teachers chosen for the study were asked to give reference of two mothers and two fathers from their class who were active and voluntarily involved in various school activities. The mothers and fathers were informed of their selection through the school authorities.

Sample Size and Distribution

The sample size and distribution of educators, early childhood teachers and parents of young children is depicted in Figure 2

![Sample Distribution Diagram]

Figure 2. Sample distribution

Tools for Data Collection

Qualitative methods represent a growing trend in early childhood research. (Spodek & Saracho, 2006). The broad aim of the research study was to provide an in depth understanding of already identified broader themes pertaining to early childhood education curriculum and further seek their implications on curriculum practices in
context. Thus, in order to home in on the multiple levels of the chosen themes, the following were the tools used for data collection.

**Curriculum Ideology Inventory (Adapted from Schiro, 2008)**

Part of the study focused on the analysis of prevailing curriculum ideologies of early childhood educators, practitioners and parents of young children. The tool used was the Curriculum Ideology Inventory, adapted from Schiro, 2008. The inventory was adapted and modified for use in the Indian context with due permission and acknowledgement from its author (Appendix M).

The inventory presents and contrasts the respondent’s belief about instructional purposes, teaching, learning, knowledge, childhood and assessment from four ideological positions as posited by Schiro, 2008. The respondents’ beliefs did not have to fall entirely within the confines of only one ideological position, as the ideological positions are ideal types rather than mutually exclusive belief systems. The following are the four ideological positions:

- Scholar academic ideology
- Social efficiency ideology
- Learner centered ideology
- Social reconstructionist ideology

The inventory consists of the following six sections:

- purpose of early childhood education
- views on children
- perspectives on learning
- concepts of teaching
- conception of knowledge
- beliefs about assessment:

Each section consists of four descriptive statements; each corresponding to any one of the above mentioned ideological position, with a blank in front of each. The respondents were expected to read each statement carefully and rank the statements ‘one’ to ‘four’ with regards to the statement they prefer the most to the statement they prefer the least. Each of the numbers (one, two, three, four) could only be used once in each section of the inventory.

The inventory was translated in the local language Gujarati and was administered in English (Appendix E) and Gujarati (Appendix K) as per the choice of each respondent.

**Semi Structured Interview Schedule**

A semi structured interview schedule for use with educators, early childhood teachers and parents of young children was developed, focusing on the following themes:

- Early childhood education: purpose of early childhood education and its importance for young children
- Teachers/teaching: what should teachers of young children be like and their role in education of young children
- Learning: concept of learning and in what different ways young children learn new concepts
- Knowledge: how is knowledge conceptualized
- Children/early years: why are early years important and what is a child like during the early years
- Assessment: purpose of assessment and different ways in which young children can be assessed

The interview schedule was translated in the local language Gujarati and was administered in English (Appendix F) and Gujarati (Appendix L) as per the preference of the respondent.

**Tool Validation**

The research tools were validated for their construct and content. Experts from the field of Human Development and Family Studies, Education and Psychology and Language Studies were instrumental in validation of the tools.

**Pilot Study**

Two pilot studies were carried out for the present research. The details of the same are as follows:

**Pilot Study 1 (P1)**

P1 was carried out with the following objectives:

- To check the feasibility of the research tools for the target group
- To gain feedback on the administration of tools and make pertinent changes if required
The pilot study was carried out on a separate target group comprising of educators, early childhood teachers and parents of young children, ensuring a proportionate homogeneity with the actual sample.

**Learning’s from P1**

As per the learning’s of the pilot study the following changes were made to the research tools and the process of administration of the tools:

*Curriculum ideology inventory (adapted from Schiro 2008):* Statements within each domain of the inventory were simplified

*Semi structured interview schedule:* The results of the pilot study revealed a preference of respondents to either note down their responses for the said questions or respond to the questions through personal interview. The respondents were thus given a choice to choose their preferred mode of response. The qualitative paradigm is sensitive to knowledge, not as fixed, but “created in interaction amongst people” (Rowe & McAllister 2002).

**Pilot Study 2 (P2)**

P2 was carried out with 20 respondents; 10% of the actual sample with the following objectives:

- Ascertaining the trends of responses obtained through the research tools
- Determine the appropriateness of the data analysis methods
Learning’s from P2

- A pattern of responses were ascertained for data obtained through curriculum ideology inventory and semi-structured interview schedule. This helped the researcher further strengthen the conceptual framework of the study.

- The broad themes and specific points of inquiry chosen for the study were found to be appropriate in terms of what they sought to inquire. However, additional probes were incorporated to elicit relevant responses based on chosen themes/constructs.

- The data analysis methods were found to be appropriate for the study: however the methods were constantly monitored to address any issues of inconsistencies.

Learning’s from both the pilot studies were incorporated into the research.

Procedure of Data Collection

Selected Essays/Documents/Books on Indian Thoughts on Education

Review of literature was carried out to identify essays/documents/books highlighting educational thought from the Vedanta and Samkhya schools of thought. Conceptual overviews of the broad themes chosen for the study were derived through review of the selected essays/documents/books.
National Early Childhood Documents

The identification of national early childhood documents was done at the sample identification stage. The selected documents were reviewed and critically analyzed on the basis of broad themes chosen for the study.

Curriculum Ideology Inventory (adapted from Schiro 2008) and Semi Structured Interview Schedule

Certain basic steps were followed while administering the curriculum ideology inventory and the semi structured interview schedule for educators, early childhood teachers and parents of young children.

A brief introductory note was presented to each respondent before administering the tools. The note explained the aim of the research and an assurance of confidentiality of responses. The note was signed by the research guide and the investigator and was presented in English (Appendix A) or in Gujarati (Appendix G).

All respondents from the four groups, namely; fathers, mothers, educators and early childhood teachers were requested to fill up a short ‘Participant Information Form’ which highlighted basic details like name, age, sex, educational qualification, occupation and contact details. The forms were presented in English (Appendices B, C, D) or Gujarati (Appendices H, I, J). The information was sought to keep a record of the participants and to seek clarification of their responses if required.
Educators

Educators from the cities of Baroda and Bhavnagar were identified through snowballing technique. Individual meetings were setup with the educators. They were explained the purpose of the research and were presented with an introductory note for informed consent. The responses on the Curriculum ideology inventory were sought first and the responses to the semi structured interview schedule were sought once the participant had completed responding to the inventory. Some educators chose to respond to the interview schedule through written descriptions, while the others preferred interviewing by the researcher. The educators who chose to respond in writing took a minimum of four days to a maximum of ten days to return the responses on both the tools. Reminders were sent through short message service (SMS) or telephonic conversations.

Early childhood teachers

Authorities of various English and Gujarati medium schools in the cities of Baroda and Bhavnagar were contacted. They were explained the purpose of the research and permission was sought to administer the Curriculum Ideology Inventory and Semi structured interview schedule for early childhood teachers. Their responses were sought by individual meetings, conducted either in respective schools or their homes, according to their convenience.

Parents of young children

The sample of parents was chosen from the cities of Baroda and Bhavnagar. Early childhood teachers chosen for the study were asked to give reference of two mothers and two fathers from their class who were active and voluntarily involved in various
school activities. The mothers and fathers were informed of their selection through the school authorities. About half of the sample comprised of parents selected through this method. The rest were identified through snowballing techniques. Parents responses on the Curriculum ideology inventory and Semi structured interview schedule was sought by individual meetings, conducted either in respective schools or their homes, according to their convenience.

**Data Analysis**

The following section describes the procedure of analysis of data. The description of the analysis is presented according to the sequence of study objectives.

**Selected Essays/Documents/Books on Indian Thoughts on education**

Conceptual overviews were derived through a literature review on education in India from the Vedanta and Samkhya schools of thought. The broad points of inquiry were purpose of education, views on children, perspectives on learning, concepts of teaching, conception of knowledge and beliefs about assessment.

**Selected National Documents on Early Childhood Education and Semi Structured Interview Schedule**

Data obtained through selected national documents on early childhood education and the responses obtained on the semi structured interview schedule were subjected to qualitative and descriptive analysis; adapted from the framework of Schiro 2008.
The following were the broad domains of inquiry:

- purpose of early childhood education
- views on children
- perspectives on learning
- concepts of teaching
- conception of knowledge
- beliefs about assessment

The following were the specific points of inquiry within each of the above mentioned domains.

**Purpose of early childhood education**

- What is the purpose of early childhood education?
- What are the aims of education of young children?
- What are the sources of aims of education for young children?
- What kind of ideals children must achieve?
- How is educational development of children linked to their psychological development?

**Views on children**

- Are the early years of a child’s life important? Why?
- Are children treated as active or passive agents in their world?
- Are children viewed as having or missing something of worth?
- Are educators focused primarily on children’s minds or their behavior?
- Are children viewed as integrated organisms or as atomizable organisms?
- Efforts should be to focus efforts on children themselves or on the acts or attributes of children?
- Are concerns about children as they are or as they ought to be?
- Are children viewed as unique individuals or in relation to standardized norms?
- Are children viewed in a social context (and if so, what type?) or outside of a social context?

**Perspectives on learning**

- How do young children learn new concepts?
- From whose perspective should learning be viewed? The receiver or the transmitter?
- Is learning primarily a function of natural growth or as a function of societal transmission?
- Is learning an integrated or an atomistic process?
- Is learning primarily a change in mind or behavior?
- Is the desired result of learning a change of mind or a change in behavior?
- Is the primary factor during learning the learner or another agent?
- Under what conditions can learning proceed best?
Concepts of teaching

- What is the purpose of teaching?
- Are teachers to be concerned about the whole child? (If not, what aspect of the child should they be concerned about?)
- How important are teachers’ attitudes, beliefs, and visions? Why?
- What is the teacher’s role during instruction?
- Are teachers considered as transmitters of knowledge or preparers and supervisors of the classroom?
- What standards should be used to measure teacher effectiveness?
- Are teachers to stimulate student diversity or uniformity?
- Are teachers to directly implement curricula unchanged or creatively adapt curricula to their situations?
- Do teachers or developers plan for children’s individual differences?
- What types of media should be employed during teaching?

Conception of knowledge

- What is knowledge?
- What is the source of knowledge?
- What kinds of abilities does knowledge give to a person?
- Where does worthwhile knowledge reside: within the individual or outside the individual?
- What is more important about knowledge: the source from which it originates or the use to which it can be put?
- When does knowledge become most useful?
Beliefs about assessment

- What is the purpose of student assessment as it relates to the person who receives the results of the assessment?
- What is the intent of assessment as it relates to the assessor?
- Are assessment measures considered to be an integral part of the curriculum development process?
- What should be the nature of the assessment instruments used in assessment?
- Are subjective or objective instruments used to assess?
- Is assessment viewed from an atomistic or holistic perspective?
- To whom are the results of assessment to be directed or beneficial?
- During assessment, is the focus on the individual, group norms, or a fixed criterion?
- Does assessment take place during the instructional process or after the instructional process?
- How are the criteria’s for successful assessment defined?
Selected National Documents on Early Childhood Education

The document analysis was qualitative and descriptive in nature. The documents were individually reviewed on the basis of purpose of early childhood education, views on children, perspectives on learning, concepts of teaching, conception of knowledge, beliefs about assessment.

Based on these, each document was critically studied to derive the assumptions pertaining to early childhood care and education. The descriptions were subjected to textual analysis. The contents of the texts were initially sorted according to the delineated themes, and A-priori codes. Inductive codes were further added as per the nature of data. Data enumeration was carried out by charting the number of times a particular code was applied to the data. Throughout the process of data analysis, reflexivity was maintained. Multiple confirmations and negative case analysis were carried out to address confirmation bias.

The researcher requested ‘independent checks’ by a retired university professor with a degree in language studies, and by a mid-career professional with an advanced degree in Education to objectively review the researcher’s coding and correctness of data interpretation. Appropriate modifications were made if necessary after discussion and consensus amongst the individuals and the investigator. Salient features that emerged from the data were documented where relevant in the results and discussion chapter.

The investigator further ascertained inter-coder and intra-coder reliability. The inter coder reliability was calculated by the calculation of an intercoder agreement coefficient.
The intercoder agreement coefficient for the analysis was the ‘percent agreement and was calculated by dividing the number of agreed upon items between two coders by the total number of items they both coded.

The coefficient was calculated using the following formula:

\[ PA_o = \frac{2A}{(n_1 + n_2)} \]

Where, \( PA_o \) was the proportion agreement observed, \( A \) was the number of agreements between two coders, and \( n_1, n_2 \) are the respective number of items coded by each of two coders.

Inter coder reliability for selected national documents on early childhood education were formally assessed at two levels; during the pilot study and during the actual analysis. The inter coder agreement was 68.4% during the pilot study and 95.3% during the actual analysis.

Intra coder reliability was ascertained by the investigator through constant monitoring of the consistency of coding. The investigator used the method of time gaps to ascertain the same. It was found that increase in the intra coder reliability was directly related to an increase in the inter coder reliability.
Semi Structured Interview Schedule

The semi structured interview schedule was administered to educators, early childhood teachers and parents of young children. Responses on the semi structured interview schedule were obtained in two different forms. Some participants chose to respond through written descriptions, while others preferred to be interviewed by the investigator. The analysis of written descriptions as well as interview data was qualitative and descriptive in nature. Each description was individually reviewed and responses within each question were critically studied to derive the assumptions regarding selected areas of early childhood education curriculum.

The obtained responses were subjected to qualitative analysis. The responses were initially sorted according to the delineated themes, and a priori codes. Inductive codes were further added as per the nature of data. Data enumeration was carried out by charting the number of respondents who reported the code. Throughout the process of data analysis, reflexivity was maintained. Multiple confirmations and negative case analysis were carried out to address confirmation bias. The investigator further ascertained inter-coder and intra-coder reliability.

The researcher requested ‘independent checks’ by a retired university professor with a degree in language studies, and by a mid-career professional with a degree in Education to objectively review the researcher’s coding and correctness of data interpretation. Appropriate modifications were made if necessary after discussion and consensus amongst the individuals and the investigator. Salient features that emerged from the data were documented where relevant in the results and discussion chapter.
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The coefficient was calculated using the following formula:

\[ PA_o = \frac{2A}{n_1 + n_2} \]

Where, \( PA_o \) was the proportion agreement observed, \( A \) was the number of agreements between two coders, and \( n_1, n_2 \) are the respective number of items coded by each of two coders.

Inter coder reliability for semi structured interview schedule were formally assessed at two levels; during the pilot study and during the actual analysis. The inter coder agreement was 61.3% during the pilot study and 93.7% during the actual analysis.

Intra coder reliability was ascertained by the investigator through constant monitoring of the consistency of coding. The investigator used the method of time gaps to ascertain the same. It was found that increase in the intra coder reliability was directly related to an increase in the inter coder reliability.
Curriculum Ideology Inventory (adapted from Schiro, 2008)

The curriculum ideology inventory was administered to educators, early childhood teachers and parents of young children. Data obtained from the curriculum ideology inventory was analyzed quantitatively. Data were initially computed separately for respective groups to ascertain differences in trends of responses, if any. Further, data from all groups were merged together to avail a holistic picture. For each group of participants, individual responses in the form of ratings (1 to 4) on all the sections of the inventory were transferred on a pre-set curricular ideology inventory sorting form.

The curricular ideology inventory sorting form is depicted in Table 2.

Table 2

Curriculum Ideology Inventory Sorting Form

<table>
<thead>
<tr>
<th>Part 1</th>
<th>Part 2</th>
<th>Part 3</th>
<th>Part 4</th>
<th>Part 5</th>
<th>Part 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Teaching</td>
<td>Learning</td>
<td>Knowledge</td>
<td>Childhood</td>
<td>Evaluation</td>
</tr>
<tr>
<td>C _____</td>
<td>D _____</td>
<td>D _____</td>
<td>A _____</td>
<td>D _____</td>
<td>D _____</td>
</tr>
<tr>
<td>D _____</td>
<td>C _____</td>
<td>A _____</td>
<td>B _____</td>
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<td>A _____</td>
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<td>B _____</td>
<td>D _____</td>
<td>B _____</td>
<td>C _____</td>
</tr>
<tr>
<td>B _____</td>
<td>A _____</td>
<td>C _____</td>
<td>C _____</td>
<td>C _____</td>
<td>A _____</td>
</tr>
</tbody>
</table>
The responses were transferred in the same order in which they were recorded in each part of the questionnaire.

On the basis of the sorting form, data matrices were computed. The following were the three levels of computing the data matrices:

Level 1: The first level included computing individual data matrices for each respondent.

Level 2: The second level consisted of computing data matrices for all respondents within respective groups, namely; group of educators, early childhood teachers, fathers and mothers, according to the specific domains of the inventory:

- purpose of early childhood education
- views on children
- perspectives on learning
- concepts of teaching
- conception of knowledge
- beliefs about assessment

Level 3: The third level involved computing data matrices by combining all respondents according to the specific domains of the inventory.

The matrices were further converted into rank frequencies and percentage and the obtained data was converted into percentage rank frequency tables. The percentage, rank, frequency tables were computed for the following:
- Combining data of all respondents within respective groups; namely group of educators, early childhood teachers, fathers and mothers.
- Combining data of all respondents according to the specific domains of the inventory

Table 3 is a dummy table, which explains the conversion of data obtained through matrices into percentage, rank, frequency tables.

Table 3

_Percentage Rank Frequency Table (Dummy)_

(N=200)

<table>
<thead>
<tr>
<th>Statement *</th>
<th>1 (Most Preferred)</th>
<th>2 (Preferred)</th>
<th>3 (Somewhat Preferred)</th>
<th>4 (Least Preferred)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (C) (Social Reconstruction)</td>
<td>f (%)</td>
<td>f (%)</td>
<td>f (%)</td>
<td>f (%)</td>
</tr>
<tr>
<td>2 (D) (Social Efficiency)</td>
<td>f (%)</td>
<td>f (%)</td>
<td>f (%)</td>
<td>f (%)</td>
</tr>
<tr>
<td>3 (A) (Scholar Academic)</td>
<td>f (%)</td>
<td>f (%)</td>
<td>f (%)</td>
<td>f (%)</td>
</tr>
<tr>
<td>4 (B) (Learner Centered)</td>
<td>f (%)</td>
<td>f (%)</td>
<td>f (%)</td>
<td>f (%)</td>
</tr>
</tbody>
</table>

*Sequence of the statements and corresponding ideologies retained in the order of their appearance on the inventory.
On the basis of the percentage, rank, frequency tables, Chi square test for homogeneity of populations was carried out.

The Test of Homogeneity is a chi-square technique used to study whether different populations are similar (or homogeneous or equal) or heterogeneous in reference to some characteristic or attribute.

Thus, the Chi square test for homogeneity of populations was carried out to ascertain homogeneity or heterogeneity of the most preferred curricular ideologies of the four groups of respondents; namely educators, early childhood teachers, fathers and mothers of young children with respect to the following:

- purpose of early childhood education
- views on children
- perspectives on learning
- concepts of teaching
- conception of knowledge
- beliefs about assessment

Separate percentage, rank, frequency tables were computed through combining the data matrices of all respondents according to the specific domains of the inventory.

The observed value of the Chi Square was calculated and reported thus,

\[ X^2 = \sum \frac{(O_i - E_i)^2}{E_i} \]
The critical value was calculated and reported at 0.05 level of significance.

\[ \chi^2_{\text{Critical}} = \chi^2_{0.05} \]

\[ \text{df} = (R-1) \times (C-1) = 3 \times 3 = 9 \]

The percentage, rank, frequency tables were further converted into graphs. The following were the three levels of computing the graphs:

Level 1: The first level included computing bar graphs for all respondents within respective groups; namely group of educators, early childhood teachers, fathers and mothers according to the specific domains of the inventory namely:

- purpose of early childhood education
- views on children
- perspectives on learning
- concepts of teaching
- conception of knowledge
- beliefs about assessment

Level 2: The second level included computing bar graphs by combining the data of the groups of educators and early childhood teachers, and fathers and mothers. The graphs were computed according to the specific domains of the inventory to depict a comparative overview.

Level 3: The third level consisted of computing bar graphs by combining the data of all four groups according to the specific domains of the inventory.
The computation and presentation of the data was carried out with a focus on the type of preference received by each of the four ideologies under specific domains of the inventory. The following was the theoretical premise for the same:

- The ideological positions are ideal types rather than mutually exclusive belief systems (Schiro 2008)
- The respondents’ beliefs do not have to fall entirely within the confines of only one ideological position (Schiro 2008)

The computation of the statistical data was carried out by the investigator under the guidance of a statistician.

Comprehensive Data Analysis

The qualitative and quantitative data obtained through the various data sources were further subjected to a comprehensive and integrated data analysis. The quantitative data helped derive interpretations regarding preferred curricular ideologies, whereas the analysis of qualitative data helped cull out the assumptions related to selected domains of early childhood education curriculum.

Verbatims obtained through interviews were reported and Inter coder reliability was established. Spradley’s (1979) Universal Syntactic Relationships were applied to the data, to ascertain inclusion or exclusion of data within the domain boundaries. Placement of data in comprehensive categories and sub-categories helped build an understanding of a phenomenon from the perspectives of multiple social actors. The analysis of data through syntactic relationships helped the investigator understand perspectives in the context of larger, socially produced patterns.