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Methodology is the plan for solving the research problem systematically through the adoption of various logical steps. It helps to understand not only the product of scientific inquiry but the process itself. “The credibility obtained in research depends very much upon the credibility of the method used” (Hillway, 1969). To collate facts for a study, the researcher can employ numerous methods and procedures. A suitable method helps the researcher to explore the diverse strands of the study and adequately measure them, so as to satisfy the requirement.

4.1 METHOD ADOPTED FOR THE STUDY

The main purpose of the present study was to find out the dimensions of multicultural education reflected in the English language textbooks of CBSE class XI and XII. As the study was both qualitative as well as quantitative in nature, Document Analysis and Normative Survey were considered suitable for collecting the relevant data.

Document analysis is a social research method which involves the reading of written material. A document is something that can be read and which relates to some aspect of social world. Two types of Document Analysis have been used to conduct this study - Discourse Analysis and Content Analysis. Content analysis is more quantitative in nature whereas discourse analysis in more qualitative. Content analysis ignores the context and multiple meanings being conveyed by how the language has been used. In the present study, the language used by the characters and the authors to construct their accounts of the social world has been analysed by the investigator in
detail. The terms and phrases used in the lessons were thoroughly checked for the contextual meanings it implied. To give the analysis a structure and form, the content has been analysed for dimensions of multiculturalism by taking into account categories such as theme, vocabulary, illustrations and exercises.

The word ‘Survey’ means the gathering of data regarding current conditions (Good and Scates, 1954). The word ‘normative’ is used because surveys are frequently made for the purpose of ascertaining which is the normal or typical condition or practice. In the present study, survey was used to collect data from the teachers and students to support the document analysis done by the investigator.

4.1.1 Sample for the Study

The guiding principle for fixing the sample size in qualitative research should be the concept of saturation. Precaution was taken to see that the best possible sample was made available for the study. The following points were considered while selecting the sample for the study:

(i) It was ensured that adequate representation was given while selecting the sample of teachers and students.

(ii) The sample should be limited to those following the CBSE curriculum.

Keeping the above points in view, adequate sample of teachers (N=60) and students (N=406) were selected for the study. Simple random sampling technique was adopted for the present study.
The name of the schools and samples selected for the survey are presented in Table 4.1 and Table 4.2.

**Table 4.1: Details of Schools Selected for the Collection of Data from Teachers**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of school</th>
<th>No. of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Chinmaya Mission School, Attukal.</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>Infant Jesus Senior Secondary School, Kuravankonam.</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>St. Mary’s Central School, Mudavanmugal.</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>Christ Nagar School, Thiruvallom.</td>
<td>3</td>
</tr>
<tr>
<td>5.</td>
<td>The School of Good Shepherd, Akkulam</td>
<td>2</td>
</tr>
<tr>
<td>6.</td>
<td>Sabarigiri Central School, Anchal</td>
<td>3</td>
</tr>
<tr>
<td>7.</td>
<td>Saraswati Vidyalaya, Vattiyoorkkavu</td>
<td>3</td>
</tr>
<tr>
<td>8.</td>
<td>MGM Model School, Ayroor, Varkala.</td>
<td>2</td>
</tr>
<tr>
<td>9.</td>
<td>MAM Model School, Chavarcode, Varkala.</td>
<td>2</td>
</tr>
<tr>
<td>10.</td>
<td>Jawahar Public Senior Secondary School, Edava, Varkala.</td>
<td>2</td>
</tr>
<tr>
<td>11.</td>
<td>Sree Gokulam Public School, Mamom, Attingal.</td>
<td>2</td>
</tr>
<tr>
<td>12.</td>
<td>Mother India International Residential Public School, Attingal.</td>
<td>3</td>
</tr>
<tr>
<td>13.</td>
<td>Mount Carmel Residential School, Kanjiramkulum.</td>
<td>2</td>
</tr>
<tr>
<td>14.</td>
<td>Jawahar Central School, Kanjiramkulum.</td>
<td>2</td>
</tr>
<tr>
<td>15.</td>
<td>St. Shantal Senior Secondary School, Malamukal</td>
<td>3</td>
</tr>
<tr>
<td>16.</td>
<td>Sree Chithira Thirunal Residential Central School, Karakkonam</td>
<td>2</td>
</tr>
<tr>
<td>17.</td>
<td>Dr. G.R. Public School, Aralummoodu.</td>
<td>3</td>
</tr>
<tr>
<td>18.</td>
<td>Kendriya Vidyalaya, Pattom,</td>
<td>3</td>
</tr>
</tbody>
</table>
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19. S.N.Public School, Varkala 3
20. Kendriya Vidyalaya, Pallipuram 2
21. Kendriya Vidyalaya, Pangode 2
22. St. Thomas Central School, Mukkolakkal 3
23. Sarvodaya Vidyalaya, Nalanchira 3
24. Christhu Jyothi English Medium School, Nedumangad 2

Total 60

Table 4.2: Details of Schools Selected for the Collection of Data from Students

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of school</th>
<th>No. of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Chinmaya Mission School, Attukal.</td>
<td>86</td>
</tr>
<tr>
<td>2.</td>
<td>Infant Jesus Senior Secondary School, Kuravankonam.</td>
<td>84</td>
</tr>
<tr>
<td>3.</td>
<td>Mount Carmel Residential School, Kanjiramkulam.</td>
<td>80</td>
</tr>
<tr>
<td>4.</td>
<td>S.N.Public School, Varkala</td>
<td>78</td>
</tr>
<tr>
<td>5.</td>
<td>Christhu Jyothi English Medium School, Nedumangad</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>406</td>
</tr>
</tbody>
</table>

4.1.2 Description of the Documents Analysed

The four English language textbooks prescribed for the CBSE in Kerala are Hornbill (Core reader, Class XI), Snapshots (Supplementary reader, Class XI), Flamingo (Core reader, Class XII) and Vistas (Supplementary reader, Class XII). The revised textbooks for Class XI was introduced in 2006 and for Class XII in 2007. Hornbill
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(Class XI) has a section for Reading Skills which has 8 prose lessons, 5 poems and a section for Writing skills; Flamingo (Class XII) has 8 prose lessons and 6 poems; Snapshots (Class XI) has 7 prose lessons and a poem; and Vistas (Class XII) has 8 prose lessons.

Hornbill has been based on the ‘English syllabus on the lines suggested by the National Curriculum Framework, 2005’ (About the Book, Hornbill, 2006). According to the textbook makers, Hornbill ‘aims to help learners develop proficiency in English by using language as an instrument for abstract thought and knowledge acquisition’. The reason for selecting the lessons is also specified in About the Book (Hornbill, 2006). ‘In the Reading section, the texts have been chosen to mirror the kind of serious reading in real life that a school-leaver should be capable of. The section on Writing Skills prepares them for the kind of independent writing that a school-leaver will need to engage in for academic as well as real life purposes.’

Snapshots, prepared on the lines suggested by the National Curriculum Framework for School Education, 2005, is aimed for the ‘young adults’ whose ‘awareness of personal development and growing independence begins at the senior secondary stage’. This supplementary reader designed to become ‘gateway to extensive reading will help learners imbibe language unconsciously’ (About the book, Snapshots, 2006).

Flamingo which ‘follows the design of the Class XI, Hornbill, published in 2006, has been prepared on the basis of the recommendations made in the National Curriculum Framework 2005’. ‘The prose selections aim to provide exposure to wide variety of genres and themes, and writing from different parts of the world. They take into
account the interests of young adults while making them aware of the socio-political
issues that they will confront as they step into the world outside school’ (About the

*Vistas* is a supplementary reader in English for Class XII (Core course), based on the
guidelines of the National Framework 2005. The main objective of this book is to
make extensive reading an enjoyable experience, lead students to appreciate some of
the best examples of writing and understand the social milieu they live. An attempt
has been made to attain these objectives by presenting varied themes and genres of
writing’ (About the book, Vistas, 2007).

### 4.1.3 Tools used for the Study

The selection of suitable instruments is of vital importance for successful research.
Different tools are used for collecting different types of data. The use of a particular
research tool depends upon the type of research proposal.

The following tools were used for the study:

#### 4.1.3.1 Multicultural Index

for analysing the multicultural dimensions in the

English language textbooks, Hornbill (Class XI), Snapshots (Class XI),
Flamingo (Class XII) and Vistas (Class XII) (prepared by Mrs Poornima
Menon and Dr. Geetha M.S.)

#### 4.1.3.2 Evaluation Schedule for Subject experts

(prepared by Mrs Poornima
Menon and Dr. Geetha M.S.)
4.1.3.3 Opinionnaire for the Teachers of Class XI and XII to find out their opinion regarding the multicultural dimensions reflected in the CBSE English language textbooks (prepared by Mrs Poornima Menon and Dr. Geetha M.S.)

4.1.3.4 Opinionnaire for the Students of Class XI and XII to find out their opinion regarding the multicultural dimensions reflected in the CBSE English language textbooks (prepared by Mrs Poornima Menon and Dr. Geetha M.S.)

4.1.3.1 Multicultural Index

The Multicultural Index is a checklist which intends to check the characteristics of the four multicultural dimensions revealed in the textbooks Hornbill, Snapshots, Flamingo and Vistas of Class XI and XII. The 45 statements in the Index are related to the numerous perspectives on the four dimensions of multicultural education such as accuracy, values, differences, sensitivity, bias, prejudice, stereotyping, critical thinking, issues having global/cultural/social relevance and developing cultural identity of the students.

The Multicultural Index was prepared by the investigator with the help of her research supervisor to check the four dimensions, viz., Content Integration, Knowledge Construction, Prejudice Reduction and Equity Pedagogy in terms of the themes, vocabulary, illustrations and exercises reflected in the English language textbooks of Class XI and XII of the CBSE curriculum. The tool was prepared after going through the literature related to the area under study and making a preliminary review of the
textbooks. Discussions were also made with various experts in the faculty of Education, English and Sociology.

- **Format of the Multicultural Index**

The Multicultural Index has four parts and has 45 statements on the various perspectives of the four dimensions of multicultural education. The first part intends to measure the multicultural dimension of different lessons integrated in the four English language textbooks of the CBSE. The next section has statements intended to check the terms and phrases used by the characters and author for multicultural perspectives. The next has statements which checks the accuracy and suitability of the illustrations used in the lessons to convey the meanings. The last part has statements to check whether the questions in the exercises help in creating multicultural classrooms. A copy of the Multicultural Index is given as Appendix I.

**4.1.3.2 Evaluation Schedule for Subject Experts**

The evaluation schedule is meant to assess the suitability of the Multicultural Index developed to check the four dimensions of multicultural education reflected in the English language textbooks of Class XI and XII of the CBSE syllabus. After having developed the Multicultural Index, it was submitted to 10 experts for evaluation. The major aspects of the evaluation were the following:

1. **Extent of adequacy of the Multicultural Index in checking the dimensions of multicultural education.**
2. **Extent of coverage of the perspectives regarding Content integration.**
3. **Extent of coverage of the perspectives regarding Prejudice reduction.**
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4. Extent of coverage of the perspectives regarding Knowledge construction.
5. Extent of coverage of the perspectives regarding Equity pedagogy.
6. Extent of suitability of the tool in checking the multicultural dimensions.
7. Extent of appropriateness of tool in checking the dimensions of multicultural education.
8. Extent of suitability of the index in realizing the objectives of the study.
9. Extent to which the tool is effective in assessing the lesson in terms of themes, illustrations, vocabulary, and exercises.
10. Extent of adequacy of the tool in measuring the dimensions reflected in themes, illustrations, vocabulary and exercises.

A copy of the evaluation schedule is given as Appendix II. The list of experts consulted for the study is given as Appendix III.

- Validation of the Multicultural Index (using Evaluation Schedule for Subject Experts)

The validity of Multicultural Index was ascertained by subjecting the index to assessment by experts for their comments. In the light of the valid suggestions made by them, appropriate modifications in terms of correction and editing were carried out in the Multicultural Index. The responses in the Index were then subjected to statistical analysis. The validation of the Multicultural Index is given in Chapter V.
4.1.3.3 Opinionnaire for Teachers of Class XI and XII in CBSE Schools

“An information form that attempts to measure the attitude or belief of an individual is known as an Opinionnaire” (Best & Kahn, 1992, p.194). The present study being a qualitative one, the document analysis was done by the investigator with efforts made to make it objective. To make the study more authentic, opinions of the teachers were collected by the investigator to check whether their opinion tallies with that of the investigator. The Opinionnaire for teachers was constructed after going through relevant literature and discussions with experts.

The Opinionnaire has two parts. Part-I required the respondent to fill in general information. Part-II of the Opinionnaire has statements on content integration, knowledge construction, prejudice reduction, equity pedagogy and school culture. Statements from 1-9 is on Content Integration which relate to the perceptions of multicultural perspectives reflected in the themes integrated in the textbooks. Eight statements (10-17) on Knowledge Construction intend to find out the extent to which the textbooks aid in constructing knowledge which is accurate and help in broadening the students’ outlook. Statements (18-27) on Prejudice reduction pertain to the ability of the textbooks in developing positive attitudes regarding gender, race, culture, diversity and customs. Statements from 28-32 is on Equity Pedagogy aim to find out the opinion of teachers regarding the scope of the textbooks in ensuring the participation of all students in the teaching learning process. 18 statements (33-50) are on School culture which is meant to find out how far the school culture helps in
promoting multicultural education. A copy of the Opinionnaire for teachers is given as Appendix IV.

- **Validity and Reliability of the Opinionnaire for Teachers**

Evidence regarding the validity of an Opinionnaire lies mainly in the procedure adopted for developing it. The Opinionnaire was prepared very carefully by ensuring that all aspects related to multicultural education is included in it. The item selection procedure may be interpreted as proof of *internal validity* of the Opinionnaire. The face validity of the Opinionnaire was ascertained by showing the prepared Opinionnaire to experts for their assessment.

The *reliability* of a measure is commonly defined as “the degree to which it measures consistently or accurately whatever it does measure” (Travers, 1959). The Opinionnaire was administered to 30 teachers for ascertaining its reliability. In this study, the reliability coefficient of the Opinionnaire was calculated using Split Half method. In the split half method, the test was divided into two halves, namely a test of odd numbered items and a test of even numbered items. The reliability coefficient of the whole test was found out using Spearman-Brown formula. The reliability coefficient was found to be 0.76 indicating that the Opinionnaire is reasonably reliable.

**4.1.3.4 Opinionnaire for Students of Class XI & XII in CBSE Schools**

The Opinionnaire for students was constructed after going through literature related to the topic and discussion with experts. The students were given a simplified version of the Opinionnaire given to teachers, with minor changes made to make it suitable for
the sample. Statement on teaching strategy (No: 30) and the statement on staff meeting (No: 50) were eliminated from the Opinionnaire for students.

Statements from 1-9 is on Content Integration, 10-18 pertains to Knowledge Construction, 19-27 on Prejudice reduction, 28-31 is on Equity Pedagogy and the rest (32-48) is on School culture. A copy of the Opinionnaire for students is given as Appendix V.

- **Validity and Reliability of the Opinionnaire for Students**

The Opinionnaire for students was also prepared by ensuring that all aspects related to multicultural education is included in it. Expert assessment of the Opinionnaire ensured its face validity.

The Opinionnaire for students was administered to 100 students of Class XI and XII for ascertaining its reliability. The reliability coefficient of the Opinionnaire was calculated using Split half method. The reliability coefficient of the Opinionnaire was found to be 0.78. The obtained reliability coefficient shows that the Opinionnaire for students is also a reliable tool.

**4.1.4 Procedure**

The process of data collection for the study was completed by the investigator in three stages:

- 4.1.4.1 Preparation and validation of the Multicultural Index
- 4.1.4.2 Document Analysis using the validated Multicultural Index and
- 4.1.4.3 Administration of Opinionnaire to teachers and students
4.1.4.1 Preparation and validation of the Multicultural Index

The investigator made a thorough reading on the topic multicultural education before attempting to analyze the texts. Preliminary reading of the textbooks was carried out to get a broad idea about the content integrated. Finally Multicultural Index was prepared to check the multicultural dimensions, viz. Content integration, knowledge construction, prejudice reduction and equity pedagogy, reflected in themes of the lessons, its vocabulary, illustrations and exercises.

This validated Multicultural Index was used to do the Document Analysis.

4.1.4.2 Document analysis using the validated Multicultural Index

Exhaustive reading of the literature and various sections of the textbook was done with a view to gain an in-depth knowledge about the multicultural aspects included in the various lessons. Using the Multicultural Index, the dimensions of multicultural education reflected in the textbook were checked by the investigator herself.

The documents analyzed for the study were the English language textbooks, viz., Hornbill (XI), Snapshots (XI), Flamingo (XII) and Vistas (XII), of the CBSE curriculum. Two types of document analysis were done – Discourse analysis and Content analysis.

The themes were looked into for the cultural diversity they reflected. The customs, values, beliefs, traditions and celebrations were studied. The investigator looked for any sign of bias, prejudice or stereotyping in the narration. The language used by the central characters/authors of the lesson was analyzed. The terms and phrases used in the lessons were thoroughly analyzed for the contextual meanings it implied. The
illustrations were checked for their accuracy and suitability. The aptness of the exercises in promoting multicultural education was looked into. The content was also checked for its role in developing values and knowledge construction. This constituted the document analysis.

4.1.4.3 Administration of the Opinionnaire to teachers and students

The Opinionnaire was administered to teachers (N=60) and students (N=406) of Class XI and XII of CBSE curriculum. They were asked to give their opinions regarding the multicultural dimension reflected in the textbooks and about the school culture. The respondents were asked to indicate their opinion by putting a tick mark in any of the three columns, viz., agree, disagree and undecided, provided at the right side of the statement.

With the permission of the heads of the institutions, the investigator visited all the selected schools. While collecting data from students, the investigator sought the help of the class teachers also. Then the necessary information about the purpose of data collection was revealed. The investigator provided all the relevant instructions for answering. For answering the whole tool, approximately 60 minutes were given. Students were instructed to attempt all the items carefully. Wherever needed clarification was given for proper understanding of the various items.

4.2 STATISTICAL TECHNIQUES USED FOR THE STUDY

The following statistical techniques were applied for data analysis:

1. Computation of means and standard deviations

2. Percentage analysis