# Chapter -3
# Plan and Procedure

# Chapter III

## Plan and Procedure

## 3.0 Introduction

In this chapter, the investigator has described plan of the research. The chapter deals with the design of the study, objectives of the study, steps involved in making the tools for data collection. It also explains the details about the sample and the technique used to draw the sample from the population and the details about the data sources like the documents collected from the schools and five point Likert scales used for data collection. There is also a description of procedure of data collection and data analysis techniques used for analysis of data from different data sources.

## 3.1. Design of the study

Descriptive survey was used for the present study. The aim of the study was to present the gather information about the implementation of various aspects of CCE in the CBSE schools of Vadodara district. Descriptive survey provides the scope for gathering information from large group of people so as to assess their needs and examine impact of certain aspects under the study (Salant & Dillman, 1994(as cited in Glasow, 2005)). Though the main stakeholders of CCE were teachers and the students, it was necessary to know about their views, opinions, suggestions and challenges that they faced; at the same time it was necessary to cross validate the data using other data sources like principal and parent responses and the documents and classroom observation. This scope of using large data sources and for a big sample is there is descriptive survey; hence descriptive survey was used for the present study.

## 3.2. Population

All the 2190 students studying in IX standard during the academic year 2014-15 and their parents in the 26 CBSE schools(having class IX); formed the population for the study. Total 26 principals of these 26 schools and the 217 teachers teaching the different subjects and 47 teachers permanently present in the school for conducting the co-curricular activities in these 26 CBSE affiliated schools of Vadodara district were taken as the population for the study.

## 3.3. Sample

Out of the total 217 teachers teaching the scholastic subjects in the 26 CBSE affiliated schools, 65 teachers teaching English, Science, Mathematics and Social Science were given the teachers questionnaire. Out of the 65 teachers the responses could be gathered only from 62 teachers since the remaining 3 teachers did not give back the questionnaire even after frequent reminders and personal visit. Students interview was conducted for 65 students who were randomly selected from total 2190 students, similarly parent interviews were conducted for 65 parents who were selected randomly through lottery method. Out of the total 26 principals, 14 principals were randomly selected and given the principals questionnaire. To implement the life skill tool, attitude tool and tool for measuring values five schools were selected randomly and all the students studying in the five schools formed sample for the three tool implementation. Thus the sample for administration of life skill attitude and value tool were selected using cluster sampling technique. There were 164 students out of 2190 students on whom life skills, value and attitude tools were administered twice; first test in the beginning of the academic year 2014-15 (pre-test) and at the end of the same academic year (post test) .

**Table 3.1. Table showing the Sample drawn from the total Population**

| Sr. no | Total population | Total sample | Percent of Sample |
|---|---|---|---|
| **Teachers (Scholastic )** | 217 | 65 | 30 |
| **Teachers (Co-scholastic)** | 47 | 8 | 17 |
| **Principals** | 26 | 14 | 53.84 |
| **Students** | 2190 | 65 | 2.96 |
| **Parents** | 2190 | 65 | 2.96 |
| **Students for life skill, attitude and value test** | 2190 | 164 | 7.48 |

The student interview and the parent interview were taken to cross validate the data given by the teachers, so less number of students and parents interview were conducted. The real implementers of the CCE were teachers and Principals so their responses were taken in considerable number.

## 3.4 Tool and Techniques

The following tools and techniques were used for data collection.

i.   Questionnaire for Teachers

ii.   Questionnaire for Principal

iii.   Semi-structured interview for Students

iv.   Semi-structured interview for Parents

v.   Observation Diary

vi.   Life skills, attitude and value tool

vii.   Formative Assessment question papers

viii.   Lesson Plan and the rubric analysis

### 3.4.1 Questionnaire for Teachers

The questionnaire for teachers was prepared using the eight steps of questionnaire preparation given by Mouly (1970) in his book 'The Science of Educational Research".

The **first** step in preparation of questionnaire was to a thorough grasp of the field, the objectives of the study and the nature of the data needed. In the present study the CCE teachers manual was used to gather in depth understanding about the objectives of CCE

and the structure provided to the schools for CCE implementation.

The **second step** in preparation of questionnaire was to finalise the aspects to be covered under each objective of the study , so 39 studies related to CCE were reviewed and also inconsideration with the points read in the CCE teachers manual,2010, the aspects for preparation of questionnaire like  development of cognitive skills, psychomotor and affective skills, learner centered activities in the teaching learning process, feedback for the FA activities/tests, diagnose and remediation provided for student  improvement, modifications in the teaching learning strategies, Orientation and Feedback given to the parents, enhancement of values, attitudes and life skills, students participation in co-curricular activities and the assessment of those activities , opinion  of  stake holders regarding  the implementation of CCE and problems faced by the stake holders with regard to CCE implementation. Under each component there were further some aspects which are depicted in the table.

**Table No. 3.2 Aspects of Each Component of the Teacher Questionnaire**

| Aspects under each component | Name of the components | Total questions |
|---|---|---|
| ➢ **Weightage given to different levels of the questions**<br>➢ **Opportunities provided for development of cognitive skills**<br>➢ **Learner centered activities (except the formative assessment activities) for conceptual understanding** | Development of cognitive skills | **6** |
| ➢ **Opportunities given for development of psychomotor skills in form of activities**<br>➢ **To find out if the purpose of assessing the above mentioned activities were for psychomotor skill assessment or not.** | Development of psychomotor skills | **4** |
| ➢ **Tools /techniques used to evaluate the affective skills**<br>  o **Format of writing anecdotal records**<br>  o **Orientation about writing the Anecdotal records**<br>➢ **Transactions of life skills, values and attitudes or the affective skills**<br>  o **transaction done by teachers**<br>  o **Training given to teachers to transact the affective skills (life skills, values and attitude)**<br>  o **Impact of life skill, values and attitude assessment and transaction.** | Development of Affective skills | **8** |
| ➢ **Use of appropriate approach and methods and the different type of activities** | Use of learner centered activities | **10** |

| | | |
|---|---|---|
| ➢ **Usefulness of teachers' manual in planning, execution and evaluating the learner centered activity** <br> ➢ **Resources provided for planning learner centered activities** | in the teaching learning process | |
| ➢ **Oral/ written feedback for written tasks in the notebooks, answer books and assignments** <br> ➢ **Type of feedback given to low achievers may motivate the student** <br> ➢ **Feedback given for performance based formative activities like seminars, group discussion, role plays, demonstration of experiments** <br> ➢ **Instructions and Feedback given for performance based formative activities** | Feedback for FA activities/test | **8** |
| ➢ **Regularity in diagnosis of the students learning difficulties** <br> ➢ **Tools/Techniques used for diagnosis** <br> ➢ **Provision of time for remedial teaching** | Provisions for Diagnose and Remediation | **6** |
| ➢ **Orientation of the teachers with respect to the CCE components and the agencies involved in it.** <br> ➢ **Duration of the training and its impact on teaching learning and evaluation process** <br>      o **Aspects of training** <br>      o **impact on teaching learning process** <br>      o **impact on the evaluation process** <br>      o **Changes observed in the teachers after training** <br>      o **Training needs identified** | Modifications in teaching learning strategies & learning environment | **8** |

| | | |
|---|---|---|
| ➢ **Use of formative assessments results by the teachers to modify their teaching strategies to address the identified difficulty and build a better learning environment** | | |
| ➢ **Regularity of orientation given to the parents**<br>➢ **Regularity of feedback given to parents about scholastic and co-scholastics aspects**<br>➢ **Mode of feedback used to feedback parents about scholastic and co-scholastic aspects**<br>➢ **Purpose of PTMs**<br>➢ **Role of PTA in the school functioning** | orientation and feedback given to the parents | **8** |
| ➢ **Provisions for the development of Scientific skills; Literary & Creative Skills; Aesthetic skills and Eco, health and wellness clubs and other**<br>➢ **provisions for the physical and health education activities and its assessment**<br>➢ **Orientation given to co-curricular activity teachers for assessment** | Provisions for student participation in co-curricular activities & their assessment | **8** |
| ➢ **Advantages and disadvantages of CCE with respect to students**<br>➢ **Advantages and disadvantages of planning, executing and organizing the various formative activities.** | opinion of teachers regarding CCE implementation | **4** |
| ➢ **Training**<br>➢ **Documentation**<br>➢ **Scholastic aspects**<br>➢ **Co-curricular aspects**<br>➢ **Co-scholastics**<br>➢ **Others** | problems faced by teachers with regard to CCE implementation | **2** |

| Total questions | 72 |
|---|---|

In the **third step** the investigator had to limit to the demands and make questions reasonable enough for the respondents to respond. Since the questionnaire was made based on different aspects related to CCE implementation by the teachers teaching in Class IX with careful listing out the sub components as mentioned above, the investigator felt that the questions were reasonable enough for the respondents to respond.

In the **fourth step** had to ensure about the length of the questionnaire , but since all the questions were related to gathering proper information about the various aspects mentioned under different components , each item was significant, so none of the items were deleted.

In the **fifth step** investigator made the first draft of the questionnaire. Questions under the ten components (Appendix-I) were made. There were total 72 questions as per the various aspects mentioned under each component. The question were both close ended and open ended.

In the **sixth step** length of the questionnaire was taken into consideration and more general questions were kept first and detail and specific questions towards end of the questionnaire. The questions were arranged in such an order that the aspects connected to each other followed one after the other.

In the **seventh step** copy of questionnaire was shown to the guide and after discussion the grammatical errors were modified.

In the **eighth step** realizing the importance of the scholarly construction of the tool the five school Principals and two experts from the field of education were consulted for the validation of the tool. For this the following points were kept in view were whether the questionnaire covered all the aspects regarding CCE, whether the items were clear, correct and easy to follow, whether items in the questionnaire were adequate or inadequate and clarity in the mode of responses was considered. The experts responded in terms of the grammatical errors and language related errors which were corrected and the final draft was made. In the final draft there were 72 questions.

### 3.4.2. Questionnaire for Principals

The principal questionnaire was also prepared by using eight steps of questionnaire preparation given by Mouly (1970) The **first step** was to have a through grasp of the field of research, the objectives and the nature of the data to be collected.  As done while making teacher questionnaire , for making  principal questionnaire also the CCE teacher manual was referred and some aspects were drawn regarding CCE and implementation of CCE, based on which the questionnaire could be prepared.

 The **second step** in preparation of questionnaire was to finalize the aspects to be covered under each objective of this study. Reviewing some studies  related to CCE  and the points read in the CCE teachers manual,2010, the aspects for preparation of questionnaire like development of cognitive skills, psychomotor and affective skills, learner centered activities in the teaching learning process, feedback for the FA activities/tests, diagnose and remediation provided for student  improvement, modifications in the teaching learning strategies, Orientation and Feedback given to the parents, enhancement of values, attitudes and life skills, students participation in co-curricular activities and the assessment of those activities , opinion  of  stake holders regarding  the implementation of CCE and problems faced by the principals  with regard to CCE implementation and also the impact of training given to the teachers were  taken as the aspects for making the questionnaire.

In the **third step** the investigator realized that there was a limit to the demands investigator could make to the respondents, so the investigator delimited the questionnaire such that reasonable answers could be gathered from the principals teaching in Class IX.

In the **fourth step** length of the questionnaire was taken into consideration but none of the items were insignificant so the number of items remained the same. Further it was examined that that every item served a definite purpose.

In the **fifth step** investigator made the rough outline of the questionnaire.  Questions under the eleven components namely development of cognitive skills, psychomotor and affective skills, learner centered activities in the teaching learning process, feedback for the FA activities/tests, diagnose and remediation provided for student  improvement, modifications in the teaching learning strategies, orientation and feedback given to the parents,

enhancement of values, attitudes and life skills, students participation in co-curricular activities and the assessment of those activities , opinion of stake holders regarding the implementation of CCE and problems faced by the stake holders with regard to CCE implementation and teacher training (Appendix-II) were made. There were total 48 questions as per the various sub components in each of the above ten components. The question were both close ended and open ended.

**Table No. 3.3 Aspects of Each Component of the Principal's Questionnaire**

| Name of the components | Aspect under the components | Total questions |
|---|---|---|
| **Development of cognitive skills** | fixed structure for weightage to be given to different levels of the questions; monitoring the opportunities given by teacher for cognitive development of students | 4 |
| **Development of psychomotor** | Opportunities given for development of psychomotor skills | 4 |
| **Development of affective skills** | tools /techniques used to evaluate the affective skills; Format of writing anecdotal records; Orientation about writing the Anecdotal records and incorporation of life skills, values and attitudes | 4 |
| **Provisions for learner centered activities in the teaching learning process and its assessment** | Resources given for planning learner centered activities | 6 |
| **Feedback for the FA activities/tests** | Ensuring feedback about the formative activities | 5 |
| **Provisions for Diagnose and Remediation for** | Provisions given to the teacher for remedial teaching | 2 |

| | | |
|---|---|---|
| **student improvement** | | |
| **Modifications in the teaching learning strategies and the learning environment** | Orientation given to the teachers, Training given to the teachers , frequency of training given , observed changes in the teaching learning process after training, feedback given to the teachers after observing their teaching | 2 |
| **Orientation and feedback given to the parents** | Orientation given to the parents regarding CCE aspects; frequency and purpose of PTM; role of PTA | 4 |
| **Provisions for student participation in co-curricular activities & assessment of them** | Provisions for conducting co-curricular activities | 2 |
| **Opinion of principals regarding CCE implementation** | Advantages & disadvantages of CCE with respect to students; advantages and disadvantages of planning, executing and organizing the various formative activities. | 6 |
| **Challenges faced by the principal with regard to CCE implementation** | Teacher Training; Documentation; Scholastic aspects; Co-curricular aspects; Co-scholastics ;Administrative | 9 |
| **Total questions** | | **48** |

In the **sixth step** length of the questionnaire was taken into consideration and more general questions were kept first and detail and specific questions towards end of the questionnaire. The questions were arranged in such an order that the aspects connected to each other followed one after the other.

In the **seventh step** copy of questionnaire was shown to the guide and after discussion the grammatical errors were modified.

In the **eighth step** realizing the importance of the scholarly construction of the tool the

five school Principals (excluding the ones who were the sample for the study) and two experts from the field of education were consulted for the validation of the tool. For this the following points were kept in view were whether the questionnaire covered all the aspects regarding CCE, whether the items were clear, correct and easy to follow, whether items in the questionnaire were adequate or inadequate and clarity in the mode of responses was considered. The final questionnaire had 48 questions.

### 3.4.3. Semi-structured interview for the students:

A semi-structured interview schedule was made with both close ended and open ended questions was developed by the investigator to gather information about the implementation of CCE (the practices followed for teaching and assessing the scholastic areas and the activities conducted and assessment practices for the co-scholastic areas and co-curricular activities, regularity of feedback given to the parents and students, regularity of diagnostic and remedial practices). Questions to get the opinion of the students on implementation of CCE were also incorporated in the schedule. The questionnaire was validated by the subject experts and the language experts and required changes were incorporated. The interview schedule was personally filled by the investigator while the interviews were conducted for 65 students studying of class IX from different CBSE schools. The final draft of the interview schedule had 32 questions totally(Appendix III)

### 3.4.4. Semi-structured interview for the parents:

A semi-structured interview schedule with both close ended and open ended questions was developed by the investigator to gather information about the implementation of CCE (the practices followed for teaching and assessing the scholastic areas and the activities conducted and assessment practices for the co-scholastic areas and co-curricular activities, regularity of feedback given to the parents and students, regularity of diagnostic and remedial practices). Questions to get the opinion of the students on implementation of CCE were incorporated in the interview schedule. The schedule was validated by the experts and the language experts and required changes were incorporated. The interview schedule was filled in by the investigator when the personal interviews were conducted for 65 parents whose children studied in the class IX. The

final draft of semi structured interview schedule had 13 questions(Appendix IV)

### 3.4.5. Field Diary:

In the context of quantitative study the field diary is used to record the observation of event, behavior in a structured format that provides temporal dimensions of the data. In this study field diary was used for observing the classroom teaching learning process, the lab practices, observing work education classes, the yoga practices and mass drill practices.

### 3.4.6 Life skill tool, attitude and Value tool

### 3.4.6.1. Life skill tool to measure the enhancement of Life Skills

A five point Likert scale was made by the investigator for finding out the life skill enhancement in the students of class IX. The life skill tool had total 153 items which was related to the ten life skills given by UNESCO. The life skill tools were made by drawing ideas from Susan Barkman and Krisanna Machtmes made solving Problems Survey(2002); Perkins & Mincemoyer created Skills for Everyday Living(2003); Mincemoyer & Perkins & Munyua created Making Decisions in Everyday Life, (2001) and Mincemoyer, Perkins and Munyua made Communicating Survey (2002); Critical Thinking in Everyday Life: Mincemoyer, Perkins, Munyua (2001). The above mentioned tools helped in making items for life skills like problem solving, decision making, effective communication, interpersonal relations and critical thinking.

From Susan Barkman and Krisanna Machtmes made solving Problems Survey (2002) 17 items were modified to suit the Indian context from the total of 22 items were kept in the final draft; the initial draft had all 22 V & VI A first and final draft. The Perkins & Mincemoyer created Skills for Everyday Living (2003) tool had 20 items related to interpersonal relation but only 13 items were drawn and were modified to make it intelligible to the Indian students, the first draft and the final draft both had 13 items only tool B (appendix VII). Critical Thinking in Everyday Life: Mincemoyer, Perkins, Munyua (2001) had 20 items related to critical thinking and from that investigator took 17 items and modified it for the ease of Indian student respondents for the final draft; in the intial draft of Tool A (Appendix V & VI - first and final draft ) had all 20 items. The Perkins and Munyua made Communicating Survey (2002) had 21 items, all 21 items

were included in the first draft of Tool A but after pilot implementation and suggestions from experts only 17 items were retained and were modified to make it easy for Indian students to understand. Perkins & Munyua created Making Decisions in Everyday Life, (2001) had 18 items and all the18 items were included in the first draft of tool A (Appendix V A first and final draft Appendix VI) but after the validation and implementation on the pilot group only 14 items were retained in the final draft.

The scoring given in the above mentioned standardized tools were on five point scale which ranged from Never, Rarely, Sometimes, Often and Always and N was scored as '1'; R was scored as '2';S was scored as '3'; O was scored as '4' and A was scored as '5' and the Wilcoxon sign rank test was used to compare the pre-test and post test scores so the investigator used the same for scoring all the items of life skills.

The ideas for making life skills items related to  Self Awareness, Coping with emotions, creative thinking, empathy and Coping with stress, some of the research studies were reviewed and some aspects were taken based on which the items were made. The aspects derived for coping with emotions were seeking social support for emotional reasons, focusing on and venting of emotions, behavioral disengagement   , Restraint coping is waiting until an appropriate opportunity to act presents itself, Active coping, Suppression of competing activities, Planning is thinking about how to cope with a stressor, calming oneself, avoidant actions, with holding feelings and distracting actions , cognitive decision making(Carver , Scheier & Weintraub, 1989; Fedorowicz,1995). The aspects based on which the items for empathy were made were Self-Judgment, isolation and Over-Identification empathy showed that an effective response to another person, which often, but not always, entails sharing that person's emotional state,  a cognitive capacity to take the perspective of the other person keep track of the origins of self and other feelings ( Davis, 1980; Neff, 2009 ;Hanson,2011). While the tool for creative thinking was made based on the criteria like confidence necessary to create new ideas and share them, skills to face the most setback situations, convert the challenges and threats into opportunities, sustenance in   adverse conditions, creation of some  unexpected ideas which are  creative (Dunning, Health and Suls,2004; Beghetto,2009; Bandura,1997). The aspects for creating items related to coping with emotions were positive ways  to express and manage emotions; Awareness in terms of qualities like  observing and describing the

present in a non-judgmental manner, emphasizing acceptance of things, Distraction in terms of constructive distraction/ 'healthy distractions; Leisure-based active coping goals and accommodation-focused and avoidance-oriented beliefs, decrease impulsive actions, Preventing negative emotions, Constructive self-assertion (Salovey *et al*, 1999; Iwasaki & Mannell, 2000; Wilde, 2008; Tharaldsen & Bru,1999).

The aspects for making self awareness items were one own feeling about the surroundings, own feelings, recognition of what oneself is experiencing, aware about the present realties and accomplishments (Kondrat, 1999; Gibbs, 1991; Hepworth, Rooney & Larsen, 1982).

### 3.4.6.2. Attitude tool to measure the Attitude

The attitude tool was made based on The School Attitude Assessment Survey–Revised (SAAS-R) developed by D. Betsy Mc Coach and Del Siegle in the year 2003. The tool had 35 items, the items were modified to simplify it to the Indian context and few more items related were added and then the total items became 60(Appendix VIII). The responses for SAAS-R tool was taken on five point scale ranging from SD (Strongly Disagree), D (Disagree), U (Undecided), A (Agree) and SA (Strongly Agree). In SAAS-R the scoring for SD was '1'; D was '2'; U was '3', A was '4' and SA was '5'. So the investigator also considered the same scoring for the final draft of Attitude tool. Wilcoxon sign rank test was suggested by the author who made SAAS-R, so the analysis of attitude scale was done using Wilcoxon sign rank test by the investigator also.

### 3.4.6.3. Value tool to measure the Values

There were ten values which the CBSE had given in the CCE teacher manual, 2010. The values were politeness & courteousness, commitment, honesty and ethical integrity, peer influence, leadership, community awareness, respect for diversity, time management, respect for opposite sex and self respect. There were no tools available for assessment of these values in the adolescent student. So the investigator made 127 items related to these ten values by finding out some aspects from research studies for each of the values(Appendix IX).

The items for honesty  were made on the basis of liking for the exhibition of intrinsic value of honesty when peers are pressurizing to be dishonest or when the environment is conducive for being dishonest, the love for learning rather than scoring, the courage to face the punishment if one is wrong (Anderman & Midgley, 2004; Jude Carroll, 2002).

The aspects based on which the items related to respect for opposite gender were Working with people of opposite gender whose beliefs, backgrounds, skills, and interpersonal styles are different; sharing and learning with children of both genders developing healthy relationships; cooperation and competition ,emotional and logical intelligence, and  sharing and leadership skills with people of opposite gender; positive influence on each other : Girls are a good influence on boys' learning and  boys have a good influence on girls (Orfield, Frankenberg, & Garces, 2008; Rust, Golombok, Hines, 2000).

The aspects based on which items related to Politeness and courteous were strategies used to avoid tension, avoid offending the other person's feelings, avoid conflict, mode of communication aimed to address universal patterns of human language and showing concern for others, while also maintaining clarity on the issue (Blum-Kulka, 1987; Kasper, 1990; Brownand Levinson1978).

The aspects drawn for making the items of commitment were enjoyment and fun while doing the task, motivation of the individual to do certain task, engagement in the work, participation in school activities, school non-attendance, misconduct in the school (Csikszentmihalyi, 1993; Fredrickscial., 1997; Jenkins, 1995; Carpenter Siinons, 1993; Scanlan,Stein,and Ravizza,1989; Weiss & Petliehkoff, 1989).

The items related to self respect were made on the aspects like an  attitude of approval that  indicates the extent to  which  an  individual believes himself to  be  capable, significant, successful and  worthy; personal judgment of  the  worthiness that  is expressed in the  attitudes the  individual holds  towards himself; emotional response that  people experience as they contemplate and  evaluate different things about themselves (Coopersmith, 1967). The remaining items for peer influence, leadership, community awareness, respect for diversity and time management were drawn from the items of the standardized tool called the Review of Personal Effectiveness with

Locus of Control (ROPELOC) developed by Richards, Ellis, & Neill in 2002 and were modified to make it simplified for the Indian students. ROPELOC tool items were drawn for peer influence, leadership, community awareness, respect for diversity and time management were suggested to be scored on five point scale ranging from Never, Rarely, Sometimes, Often and Always and N and the scoring was given as N to be scored as '1'; R to be scored as '2';S to be scored as '3'; O to be scored as '4' and A to be scored as '5'. Similar scoring was taken up to measure items related to respect for opposite gender, Politeness and courteous and commitment which were self made by the investigator. For the items made by the investigator on honesty & ethical integrity and self respect, the responses were taken on the scale of SD (Strongly Disagree), D (Disagree),U (Undecided), A (Agree) and SA (Strongly Agree) and SD was scored as '1'; D was scored as '2'; U was scored as '3', A was scored as '4' and SA was scored as '5'. The Wilcoxon Sign Rank Test was used to compare the pre-test and post test scores.

All the three tools namely life skill tool, value tool and attitude tool were first implemented on a sample of 10 students in class IX CBSE schools, these 10 students were not the part of the 164 students selected for the final implementation. The items which seemed more ambiguous and difficult were removed. Then the tools were given to the experts for validation. The items which were marked inappropriate were removed from the tools. For the ease of administration on 10 students, the life skill tool was divided into two parts and were named tool A and Tool B, the attitude scale was named Tool C while the value tool was named Tool D. The items related to critical thinking, decision making, problem solving, effective communication, and self awareness were put in Tool A. First draft of Tool A had 107 items while after validation and implementation on the pilot group of 10 students the total numbers of items were reduced to 85 items. Tool B had items related to life skills like creative thinking, interpersonal relationship, empathy, coping with emotions and coping with stress. The total items in the Tool B were 68 in the first draft and later also it was 68. In Tool C there were items related to attitudes towards school, teacher, peers and environment, the total number of items were 60 in the first draft and in the final draft also the no changes were suggested by the experts. While in Tool D, there were total

127 items for ten different values and after validation and implementation on the pilot group of students the number of items remained unchanged. The students were asked to respond on the five point scale which had options from N(never), R(rarely), S(sometimes), O(often) and A(always). Only for the items related to self respect, honesty and ethical integrity in the Value tool (Tool D)and items related to attitudes in the Tool C the responses was to be given as SD(Strongly Disagree), D(Disagree),U(Undecided), A(Agree) and SA(Strongly Agree).

**Table No 3.4 Details of the tools for Life skills, Attitudes and Values**

| Sr. No. | Life skills (Tool A) | Number of Items in final draft |
|---|---|---|
| 1 | Critical Thinking | 17 |
| 2 | Decision Making | 14 |
| 3 | Problem Solving | 17 |
| 4 | Effective Communication | 17 |
| 5 | Self Awareness | 20 |
| | **Life skill (Tool B)** | |
| 6 | Creative Thinking | 14 |
| 7 | Interpersonal Relation | 13 |
| 8 | Empathy | 14 |
| 9 | Coping with emotions | 14 |
| 10 | Coping with Stress | 13 |
| | **Attitude Scale(Tool C)** | |
| 1. | Attitude towards School | 13 |
| 2 | Attitude towards teachers | 19 |
| 3 | Attitude towards Environment | 12 |
| 4 | Attitude towards peers | 16 |
| | **Tool to measure Values (Tool D)** | |
| 1 | Politeness and courteous | 15 |
| 2 | Commitment | 11 |

| | | |
|---|---|---|
| **3** | self respect | 15 |
| **4** | peer influence | 8 |
| **5** | Leadership | 17 |
| **6** | community awareness | 9 |
| **7** | respect for diversity | 13 |
| **8** | time management | 9 |
| **9** | Honesty and ethical integrity | 11 |
| **10** | respect for opposite gender | 11 |

## 3.5 Sources of Data

The data sources for this study were students, teachers principals , parents, classroom observations, rubric analysis , question paper analysis, lesson plan analysis and the results from the life skill, value and attitude scale data collected from the students. The details of the data sources are given as follows objective wise.

**Table No. 3.5. Data sources for the all the three objectives of the study**

| Sr. no | Objective | Data sources |
|---|---|---|
| 1 | To study the present status of CCE implementation with respect to the ten aspects mentioned above. | 62 Teachers, 14 principal responses to questionnaire ; 65Students and 65 parents responses to interview, 32 lesson plans , 41 formative question paper analysis from different schools, 53 classroom observation and 17 rubric analysis , 3 anecdotal record formats, responses from 8 co-curricular activity teachers from different schools; data analysis of pre test and post test of life skills, values and attitude scales on 164 students |

| | | |
|---|---|---|
| **2** | To study the opinion of teachers, parents, students and principals regarding | parents, students, teachers and principal responses to interview and questionnaire respectively |
| **3** | To study the problems faced by the teachers, parents and principal and the students of the | Teachers, principals and parents responses to questionnaire and interview respectively |

All the 62 teachers who responded to the teacher questionnaire were teaching different subject i.e. 18 were science teachers, 16 were mathematics teachers, 12 were English teachers and 16 were social science teachers. All the teacher were requested to provide their lesson plans, rubric for F A activities, anecdotal record copy and the one question paper of FA test. But out of 62 teachers only three teachers gave a sample of anecdotal record, 17 teachers gave one rubric of FA activity assessment, 41 teachers only gave one question paper made by them for FA tests and 32 teachers gave the lesson plans. So the received data was analyzed qualitatively.

Total 41 formative tests question papers were gathered from different teachers, out of which 15 were science question papers, 11 were Mathematics paper, Six were English question papers and nine papers were social science question papers the questions related to various objective levels of cognitive development (knowledge, understanding and application). The weightage for the items related to various levels of objectives (knowledge, understanding, application and higher order thinking question HOTS) were calculated.

Out of the 53 classroom observations, 11 maths classes, 20 science classes, eight social science classes and 14 english classes were observed. Out of 32 lesson plans, eight was given by science teachers; 11 by mathematics teachers; four by english teachers and nine by social science teachers. Out of the 17 rubric analysis , seven were english rubrics, five were maths rubrics, two were social science rubrics and three were science rubrics.

**3.6 Collection of data**

For the implementation of life skill, attitude and values tools students from four schools were randomly selected and the tools were implemented on students of class IX, in the beginning the academic year 2014- 15 and at the end of the academic year, since the pre-test and the post test was to be conducted. Total 17 schools were randomly selected, and the teacher questionnaire and principals questionnaire were given to all the 17 principals and four teachers from each school teaching five different subjects in class IX but only 14 school principals filled in the questionnaire and returned back and also only teachers from those 14 schools gave the filled teachers questionnaire.  Since the aim of interviewing the parents and the students was to cross validate the responses given by teachers and principals, five students were randomly selected for the interview and their parents were also interviewed. Investigator approached the schools to conducted group discussion during the PTMs but all the 14 schools denied so the investigator personally visited the residence of each of the 65 students and interviewed them and their parents.

**Table No. 3.6 Time period for collection of the data using various tools & techniques**

| Objecti | Data source | Time Period |
|---|---|---|
| I | Pre-test of life skills, attitudes and values implementation  on students of class IX | June 2014 |
| I, II and III | Collecting teacher responses and principals responses and class room observations, document collection. | June 2014 to August 2015 |
| I | Post test of life skills, attitudes and values implementation  on students of class IX | March 2015 |
| I, II and III | Students and parent responses | April 2015 to June 2016 |

## 3.7 Analysis of Data

Data analysis for the comparing the pre-test and post test scores of the life skill, value and attitude scale were done using Wilcoxon Sign Rank test. Since all the three tests were having ranked data this test was used. Moreover the data fulfilled all the assumptions that were necessary for performing the Wilcoxon Sign Rank test as given by Robert B.McCall

(1970) in his book Fundamental Statistics for Psychology i.e. the students/respondents were randomly selected, the responses to the items in the test were in the ordinal/ranked form and each respondent had at least a pair of scores which is the pre-test score and the post test score.

The responses of the teacher questionnaire, principal questionnaire, student interview and parent interview were analyzed using content analysis and percentage based on the frequency was calculated for each aspect of the different components of questionnaires mentioned above in the table 3.2. Similarly the frequency and percentage was calculated for each aspect of the rubric, lesson plan, classroom observations, question paper analysis anecdotal analysis which were similar to the aspects of the teacher and principal questionnaires.

The data which was analysed using content analysis were triangulated to find out the consistencies of the data collected from different data sources.

Triangulation means to view the research issue form atleast two view points and triangulation of Data combines data drawn from atleast two different data sources about the same aspect (Denzin, 1988 (as cited in Flick,2011)). There were four forms of triangulation of data sources (data drawn on different sources and from different people); investigator triangulation (use of different investigators to collect data to remove the subjective influence), triangulation of theories (use of different theoretical approach for finding out the various theoretical views about the data) and methodological triangulation (use of different methods to collect the data to maximize the validity of findings).

Since this study consists of atleast two data sources for each of the aspect under each component of the three objectives, the triangulation of data was conducted to interpret the data. Basically the data from different data sources were triangulated and those responses from different data sources which had consensus or were aligned in the same direction were considered valid for the findings. Each data source had responses or the facts based on the type of data source it was either questionnaire & interview responses or documents. The data after content analysis were categorized, and the data from similar categories of different data sources were used for triangulation. So finally the triangulation of data was done.