

Chapter 3

Research Methodology

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3. Introduction

This Chapter includes Research methodology employed for the study in terms of Design of the study, Sampling of the Participants for identification of expected Coping Skills for 21st Century, designing of educational activities, implementing the educational activities for exploring Coping Skills for 21st Century and to develop the tracker on Coping Skills for 21st Century, Tools & Techniques employed, Plan & Procedure for Data Collection and Data Analysis Technique Employed. All the three phases of the study have been presented in the following sections of this chapter.

3.1. Design of the Study

The study is intended to study Coping Skills for 21st Century among the students of secondary level. The study was conducted into three phases i.e. identification phase, designing phase and implementing phase. In the identification phase, expected coping skills were identified based on the challenges faced by the students. In the second phase educational activities and tools & technique were designed. The third phase was implementation phase, where the designed educational activities and tools were implemented. The implementation phase was intended to provide various learning situations to the students and to explore Coping Skills of 21st Century among them. Thus, this is an exploratory cum intervention study, which is qualitative in nature.

3.2. Sampling of Participants

The sampling was done in three phases.

1. Identification of expected Coping Skills for 21st Century
2. Designing Educational Activities & Tools and Technique to Study Coping Skills for 21st Century.
3. Implementing the Educational Activities and Exploring the Coping Skills for 21st Century.

3.2.1. Identification of Expected Coping Skills for 21st Century

- The group of adolescents staying in Pratap Gunj, Vadodara was identified. The group contained adolescents of age between eleven to thirteen and studying in various English medium schools of Vadodara city. The group was

observed playing together, fighting and solving disputes among them. Further, the group was also observed to be involved in social services at their level. Thus, the group was selected through purposive sampling.

- The visiting faculties of CASE & delegates of National Seminars were considered as Educationist. They were selected through non-probability sampling i.e. incidental sampling.

3.2.2. Designing Educational Activities to Explore Coping Skills for 21st Century among Students of Secondary Level

- Research scholars (2012-13) and prospective teacher educators (2012-13) of Centre of Advanced Study in Education (CASE) were selected.
- Teachers of Vadodara city were selected through snowball sampling.

3.2.3. Implementing the Educational Activities and Exploring the Coping Skills for 21st Century

- For piloting of the study, Ankur Vidhyalaya, Dasrath (2013-14) was selected purposively based upon the following criteria
 - a. Students of the school were from diverse culture and having experience of people coming from various geographical areas and culture. The Students are from various states of India and they are studying together at least for five years.
 - b. The School was equipped with computer laboratory and the students of the school had enough exposure of information and communication technologies.
 - c. The school has play ground, indoor games facility and enough space for the creative and constructive work of students.
 - d. There is cooperation of Teachers and principal for the intervention of the designed activities.

Ankur Vidhyalaya, Dasrath is English medium School affiliated to Gujarat State Secondary Education Board (GSEB). There were forty two students in standard IX and six teachers (including sports) dealing with standard IX students. Among the forty two students of standard IX, two students were absent during implementation of educational Activities. Thus, forty students of standard IX, six teachers and the Principal of Ankur Vidhyalaya, Dasrath

(2013-14) were selected as participants of the study. The school was selected purposively through non-probability technique of sampling.

- For the implementation of the designed educational activities, Shannen School, Vadodara, Gujarat (2014-15) was selected purposively based upon the above stated criteria and one criteria was added, i.e. limited number of students (≤ 30) in standard IX.

Shannen School, Vadodara is English medium school affiliated to Central Board of Secondary Education (CBSE). There were twenty two students in standard IX and ten teachers (including music, art & craft and sports) were dealing with standard IX students. Among the twenty two students of standard IX, five students were absent during implementation of Battery of Tests and educational Activities, while one student was continuous absent for one month. Further, among ten teachers one teacher was visiting faculty. Thus, sixteen students, eight teachers and the Principal of the Shannen School, Vadodara (2014-15) were selected as participant of the study. The school was selected purposively through non-probability technique of sampling.

- Parents of the selected students of standard IX of Ankur Vidhyalaya, Dasrath (2013-14) and Shannen School, Vadodara (2014-15) were selected purposively.

3.3. Tools and Techniques for Data Collection

The following tools and techniques were employed for data collection.

1. Semi Structured Interviews

The interview focused on needs of the students, curriculum inputs and subject matter required to cope up with the needs. The teachers, principals and students of the Ankur Vidhyalaya, Dasrath (2013-14) and Shannen Schools, Vadodara (2014-15) were interviewed. Further, teachers of the schools and educationist were also interviewed.

2. Focused Group Discussion (FGD)

Six sessions of the focused group discussion (FGD) were conducted of six to twelve participants. Two FGDs were conducted with the teachers of Ankur Vidhyalaya, Dasrath (2013-14) to identify the challenges faced and expected Coping Skills for 21st Century. One FGD was conducted with the teachers of various schools of Vadodara City. Focus of the FGD was to validate the

learning experiences in educational activities for exploring the skill. The researcher has focused upon areas, such as, challenges faced by students, educational goals, educational inputs (expected learning experiences) to be used and requisite skills. Three FGDs were conducted with the teachers of Shannen School, Vadodara. The discussion focused upon disciplinary issues, educational need and the emerging profile of students during observations. Prior to the FGD some reference material was given to them and PPT on 21st Century Teacher was also shown.

FGD 1 - Teachers of Vadodara City: The FGD focused on validating and consolidating the drafted learning experiences identified from the literature reviewed and interviews with educationist, teachers & principals. The Group had ten teachers of various schools of Vadodara City.

FGD 2 @ Ankur Vidhyalaya, Dasrath (2013-14): The FGD focused on Challenges faced by the students in 21st century. The Group contained six teachers of secondary section and the Principal of Ankur Vidhyalaya, Dasrath.

FGD 3 @ Ankur Vidhyalaya, Dasrath (2013-14): The FGD focused on means to cope up with the challenges and skills employed by the students in 21st century. The Group contained total seven teachers, among them five teachers were of secondary section, one experienced teacher of primary section and the Principal of Ankur Vidhyalaya, Dasrath.

FGD 4 @ Shannen School, Vadodara (2014-15): The FGD focused on disciplinary issues of students of Shannen School, Vadodara (2014-15). The Group contained eight teachers of Secondary section included the Principal.

FGD 5 @ Shannen School, Vadodara (2014-15): The FGD focused on educational need of the students in 21st century in general and students of Shannen School, Vadodara (2014-15) in particular. The Group contained eight teachers of Secondary section.

FGD 6 @ Shannen School, Vadodara: The FGD focused on emerging profile of the students of Shannen School, Vadodara (2014-15). The Group contained seven teachers of Secondary section.

3. Brainstorming Sessions (BS)

Two brainstorming sessions (BS) with Research Scholars and prospective teacher educators of CASE, MSU (2012-13) were conducted to gather learning experiences to be used in activities for exploring the skills.

BS 1 @ Research Scholars of CASE, MSU, Baroda (2012-13): The Brainstorming session focused on requisite learning experiences to meet the educational need and hence to cope up with the challenge (i.e. excessive use of social networking) faced by the students in 21st century. The Group contained eight research scholars of the year 2012-13.

BS 2 @ Prospective Teacher Educators, CASE, MSU, Baroda (2012-13): The Brainstorming session focused on requisite learning experiences to meet the educational need and hence to cope up with the challenge (i.e. devoid of beauty of nature) faced by the students in 21st century. The Group contained twenty eight prospective teacher educators of the year 2012-13.

4. Battery of Tests

Battery of Tests was prepared for the skills identified under three major concerns, namely, to function in a heterogeneous group, to act autonomously and to use tools interactively. The Battery of Tests comprised of tests, such as, Know your peers (My Peers), My Life... My Ways... My Meanings..., My Favorites, Reasoning Test, Picture Perception Test, Situational Test, Socio-metrics and Self-report. The Battery of Tests was piloted on all the forty students of standard IX of Ankur Vidhyalaya, Dasrath (2013-14), and implemented on all the students of standard IX of Shannen School, Vadodara.

Know Your Peers (My Peers): The test was intended to investigate knowledge of students regarding their peers. The test contained names of all the students. For each name the students were asked to write three attributes out of which two should be positive.

Initial draft of the test contained an open ended question, where, each student were asked to write name of his/her friend and their two attributes. The draft was peer reviewed among the group of researchers and discussed with the guide. As per their suggestions, the test was redesigned with names of all the students and the participants were asked to write two attributes against each

name. The second draft was piloted on the students of standard IX of Ankur Vidhyalaya (2013-14). Some of the responses were negative for non-friend or un-liked students and some of the entries were not filled. Based on the suggestions and mode of responses final draft was prepared.

My Life... My Ways... My Meanings...: The test was intended to check creative writing skills, creative thinking, reflective thinking and self knowledge. The test contained eight items. The items were related to perception of self, family, friendship, emotions and life goals. For each item one was asked to write perception or reflection, further, they were asked to give metaphor or one word that defines the text.

The initial draft of the test was peer reviewed and discussed with the guide. The initial draft contained seven items, wherein, an item related to life goal was added after the suggestions. The draft piloted on the students of standard IX of Ankur Vidhyalaya, Dasrath (2013-14) and implemented on the students of standard IX of Shannen School, Vadodara (2014-15).

My Favorites: The test was intended to study creative writing skills, creative thinking, reflective thinking and self knowledge. The test contained six items. Item number one was related to prioritize three favorites with justification. Against the item numbers two to five, each one words was given, and the individual perception was sought. The last item was open ended asking for perception of any object/animal/thing from routine life.

Situation Test: The test was intended to investigate the critical thinking skills, logical reasoning and problem solving skills. The test was prepared on the spot, wherein, five situations were given and the students had to respond to the situation as per their expected action. Situation test was implemented on the students of standard IX of Shannen School, Vadodara (2014-15). directly as the researcher felt need for this test.

Reasoning Test: The test was intended to study reasoning and logical abilities. The test contained three questions. Further each questions had five sub questions. The questions were based on different arrangement and one had to identify the asked position in the given arrangement.

Picture Perception Test: The test was intended to study social and civic responsibility, sensitivity and thinking ability/pattern. They were shown various pictures in PPT followed by the situations or questions, and for that picture observations and reflection were asked. Further, the test was also intended to study reflective thinking skills, creative expressions and skills of observations.

Video Games & Puzzles: The video games and puzzles were intended to study strategic thinking skills of students. The students of standard IX of Shannen School, Vadodara (2014-15) were asked to solve Sudoku (of Times of India) and Minesweeper game (Microsoft game).

5. Socio-metrics

Socio-metrics was done to know the interaction pattern of the participants, wherein, eleven questions were asked and the participants were asked to write their choices for various activities, such as, studying, playing, excursion and projects. Further, they were also asked their perception about classmates. For each question they were asked to give two choices one favourable, and other non-favourable.

6. Observation

The participant students of standard IX of Ankur Vidhyalaya, Dasrath (2013-14) and Shannen School, Vadodara (2014-15) were observed in terms of the actions they exhibited on the given activities/task. Further the group of students was observed during formal classroom situations, while interacting in informal groups, during their curricular and co-curricular activities in school and while they were performing any activity. Participatory & non-participatory semi-structured observation techniques were used. Further, video camera and still camera were used to record observations.

7. Observation Schedule

The observation scheduled for the students of the Shannen School, Vadodara (2014-15) was prepared and the students were observed. The observation schedule contained the components of the skills which were identified while piloting at Ankur Vidhyalaya, Dasrath (2013-14).

8. Field Note & Field Diary

Field note contains descriptive and reflective aspects of field observations and experiences. The field notes were used to guide daily field plan and procedure to be followed. The field diary contained brief record of daily activities, field experiences, plan and procedure to be followed during research.

9. Moodle

Moodle was intended to organize the data collection procedure. The moodle contained element of social networking, such as, blogs, chats and internal messaging, where the students can reflect and share their viewpoints. It was also used for communication and to facilitate two way interactions. Thus, moodle was used as a tool for data collections, as well as, it was a part of educational activities.

10. Profile of Students

The profile of each student of standard IX of Shannen School, Vadodara (2014-15) was prepared and maintained in terms of factual information, anecdotal record, responses in interviews & Battery of Tests and observations (while performing activities, classroom interactions and off the class interactions). Further, it also contained their social aspect, cultural aspect and geographic conditions. Thus profile is an up-to-date record of participants during research.

11. Interview Schedule

The students were interviewed regarding their reflection on educational programme, personal experiences outside the school and techniques employed for coping with the needs in various life-like situations. The interview was audio recorded.

3.4. Phases of the Study

The study was conducted into four phases as follow

1. Identification of expected Coping Skills for 21st Century
2. Designing of educational activities and tools & technique to study Coping Skills for 21st Century

3. Implementing the educational activities, exploring the Coping Skills for 21st Century among students
4. Developing a Tracker on the Coping Skills for 21st Century

3.4.1. Identification of the Expected Coping Skills for 21st Century

Expected Coping skills for 21st century were identified through the following procedure

1. Identification of the challenges faced by students
2. Identification of the expected Coping Skills of 21st Century

3.4.1.1. Identification of the Challenges Faced by Students

Participants Involved: All the standard IX students and their parents, teachers and principal of Ankur Vidhyalaya (2013-14) and Shannen School (2014-15), educationist and a group of adolescents staying in Pratap Gunj, Vadodara were the participants for the identification of the challenges. The participants were selected purposively based on the judgment of the researcher.

Tools & Technique Used: Structured and unstructured Interviews, Group Interviews, Focus Group Discussion, Observations, Field Diary and Field Notes were used to collect data to explore the challenges faced by the students.

Data Collection

- Initially the adolescents of Pratap Gunj, Vadodara, were identified and interviewed in group. The purpose of the interview was to identify the challenges faced by them and what mechanism do they follow to meet those challenges. The group interview was video recorded.
- These challenges were discussed with the educationist from all over India in National Seminars for the purpose of refinement, and in-depth understanding.
- The Focused Group Discussion was conducted among the teachers of Ankur Vidhyalaya, Dasrath (2013-14), where, identified challenges of 21st century were shared with them prior to the FGD.
- Further, the educational needs of standard IX students of the Ankur Vidhyalaya, Dasrath (2013-14) were identified through experiencing the field and Focused Group Discussions. The students were observed in their natural settings, time to time interaction with students, teachers, principal of the

school and parents. The parents were selected purposively. From those challenges of the students, educational needs were identified.

- At the end of these processes, a draft of the challenges faced was prepared. Further, the draft was validated by interacting with the standard IX students, teachers of Shannen School (2014-15) and the final draft was prepared. The FGDs was conducted with the teachers of Shannen School, Vadodara (2014-15).

3.4.1.2. Identification of Expected Coping Skills of 21st Century

Participants Involved: For the identification of the expected coping skills of 21st century, teachers and principal of Ankur Vidhyalaya (2013-14) & Shannen School (2014-15) and a group of adolescents staying in Pratap Gunj area were selected purposively. Further, the visiting faculties of CASE were also contacted.

Tools & Technique Used: Structured and unstructured Interviews, Focus Group Discussion, Observations, Field Diary and Field Notes were used to collect data to explore expected Coping Skills for 21st Century.

Data Collection

- The mechanism expressed by the students of Pratap Gunj area to meet the challenges were content analyzed and the skills they were using to meet the challenges were identified.
- The related literature was studied to identify the expected coping skills for the 21st century in the light of the 21st century challenges and challenges faced by the students.
- The visiting faculties at CASE were also interviewed in-depth and the expected skills were discussed in the light of identified challenges.
- Further, to have a feel of the field and to have a hand on experience, the entry status of the students was studied in terms of exhibiting the skills. The students were observed in the play ground while they were playing games, during recess time, in classroom and while on the tasks were allotted.

3.4.2. Designing Educational Activities and Tools & Technique to Study Coping Skills for 21st Century

Participants Involved: For the identification of the expected coping skills of 21st century, standard IX students, teachers and principal of Ankur Vidhyalaya (2013-14) & Shannen School (2014-15) were selected purposively based on the purpose described. Further, teachers of various schools of Vadodara City, research scholars and prospective teacher educators of CASE, MSU were the participants.

Tools & Technique Used: Structured and unstructured Interviews, Focus Group Discussion, Brainstorming sessions, Observations, Field Diary and Field Notes were used to collect data for planning the activities to develop Coping Skills for 21st Century.

Data Collection

- The related literature was reviewed for planning the educational activities for studying coping skills for the 21st century. Various learning experiences were collected and shared for the purpose.
- Brainstorming sessions was conducted with research scholars & prospective teacher educators for exploring various learning experiences. FGDs were conducted with the teachers of Vadodara City, and teachers of Ankur Vidhyalaya, Dasrath (2013-14). The FGDs were intended to consolidate the skill specific learning experiences. These skill specific learning experiences were used as Educational Activities to explore Coping Skills for 21st Century among students.
- Further, the identified educational activities & tools and technique for studying CS21C were piloted on all the students of Ankur Vidhyalaya, Dasrath (2013-14). Moodle was also prepared to assist & organize activities and tools, to reflect, share & transmit knowledge and to facilitate communication among the members of the intact group.
- A Battery of Tests was employed on the participant students and observations done in natural settings.
- The shared learning experiences were used to form the educational activities and tools & technique for studying Coping Skills for 21st Century.

3.4.3. Implementing the Educational Activities and Exploring the Coping Skills for 21st Century

Participants Involved: For the implementation and to explore the Coping Skills for 21st Century, Shannen School (2014-15) was selected purposively based on the criteria mentioned above. The twenty two students of standard IX and teachers were the participants.

Tools & Technique Used: Structured and unstructured Interviews, Focus Group Discussion, Observations, Field Diary and Field Notes and Battery of Tests were used while implementing the designed educational activities to study Coping Skills for 21st Century.

Data Collection

- The designed activities & tools and techniques were implemented on the intact group of standard IX of Shannen School (2014-15).
- Further, students were also observed during the special events and day celebrations. The Tracker on Coping Skills for 21st Century was used while observations.
- Based on data collected through observations, Battery of Tests and anecdotes were content analyzed and comprehensive profile of each student was constructed. Further, analysis was done to identify the challenges, Coping Skills for 21st Century exhibited and the skills needed to be developed.
- During implementation phase again two FGDs were conducted and the Principal was interviewed time and again. The focus of the FGDs was to explore the educational need of the Shannen School and suitability of designed educational activities.
- At the end of the implementation, the students were interviewed. The semi structured interview was intended to evaluate the designed educational activities.

3.4.4. Developing a Tracker on the Coping Skills for 21st Century

Participants Involved: For the development of Tracker on coping skills of 21st century, standard IX students of Ankur Vidhyalaya (2013-14) & Shannen School

(2014-15) were selected purposively based on the purpose described. Further, educationists were also contacted.

Tools & Technique Used: Structured and unstructured Interviews, Observations, Field Diary and Field Notes and Battery of Tests were used while implementing the designed educational activities to study Coping Skills for 21st Century.

Data Collection

- The tracker has emerged out of the literature, interaction with educationist and observations of the participant students.
- At each phase of the study, tracker on Coping Skills for 21st Century was updated.
- The first tracker was prepared by studying the literature.
- The first tracker was updated in the light of the reflections made by the educationist.
- The updated tracker was again redefined based on the field experiences and observation of the participant students of Ankur Vidhyalaya, Dasrath (2013-14).
- The tracker was used for observation at the Shannen School, Vadodara (2014-15).
- The tracker was finalized in the light of field experiences at Shannen School, Vadodara (2014-15) and literature studied.

3.5. Data Analysis Technique Employed

- The data collected through the Battery of Tests were content analyzed.
- Data collected through interview, FGDs and Brainstorming Sessions were recorded and transcript was prepared. Content of the transcript was coded and categorized based on the theme of the responses.
- Data collected through observations were recorded as field notes. The field notes were content analyzed.
- The profiles of students were analyzed qualitatively.