CHAPTER - 3

DESIGN OF THE STUDY

In the formulation of a research design, the selection of an appropriate and suitable research methodology is an important aspect. It consists of methods employed to approach the research problem and the tools or techniques employed to gather data and samples. Aggarwal (2010) stated that research methodology may be a description of process or may be expanded to include a philosophical coherent collection of theories, concepts or ideas as they relate to a particular discipline or field of enquiry. Methodology may refer to nothing more than a simple set of methods or procedures or it may refer to the rational and the philosophical assumptions that underlie a particular study relative to the scientific method. Reddy (2009), proclaimed that research comprises of defining and redefining problems, formulating hypothesis or suggesting solutions, collecting, organizing and evaluating data, making deductions and making conclusions to determine whether they fit the formulated hypothesis. The design formulated for the study, ***"Resource Availability and Academic Stress among Higher Secondary Students"*** comprised of the following phases:

3.1. Phase 1: Conduct of survey among higher secondary students

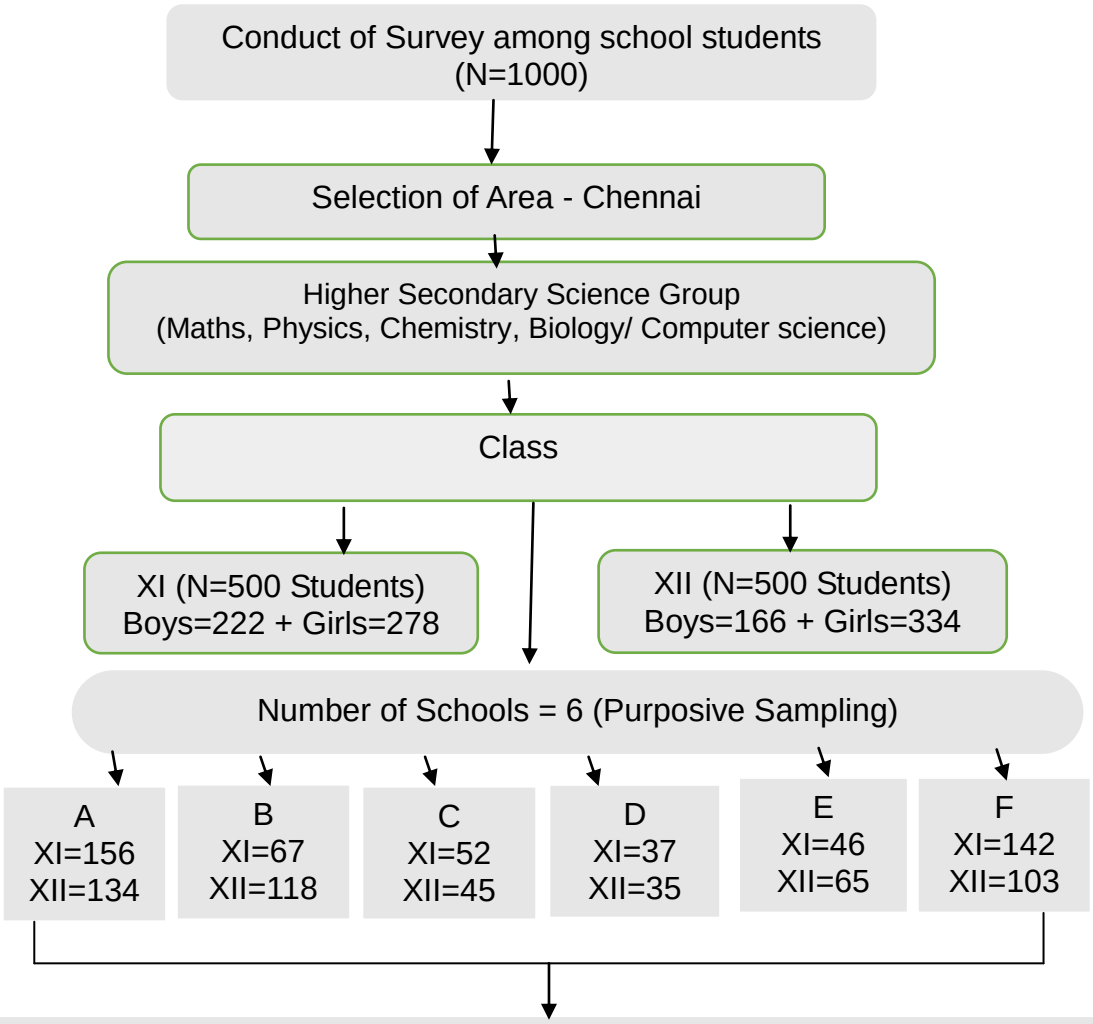
3.2. Phase 2: Initiating an intervention programme

3.3. Phase 3: Evaluating the impact of the intervention programme conducted

3.4. Phase 4: Executing a case study among the selected students

The schematic representation of the phases of the study is presented in Figure 4.

Phase 1



INFORMATION COLLECTED

- Conspectus of selected students
- Resource availability
- Supportive network
- Symptoms of Stress
- Assessing Students Stress (Developed and Standardized by Ministry of Social Security, National Solidarity and Reforms Institutions, 2012)
- Assessing Test anxiety (Developed and Standardized by Nist and Diehl, 1990)

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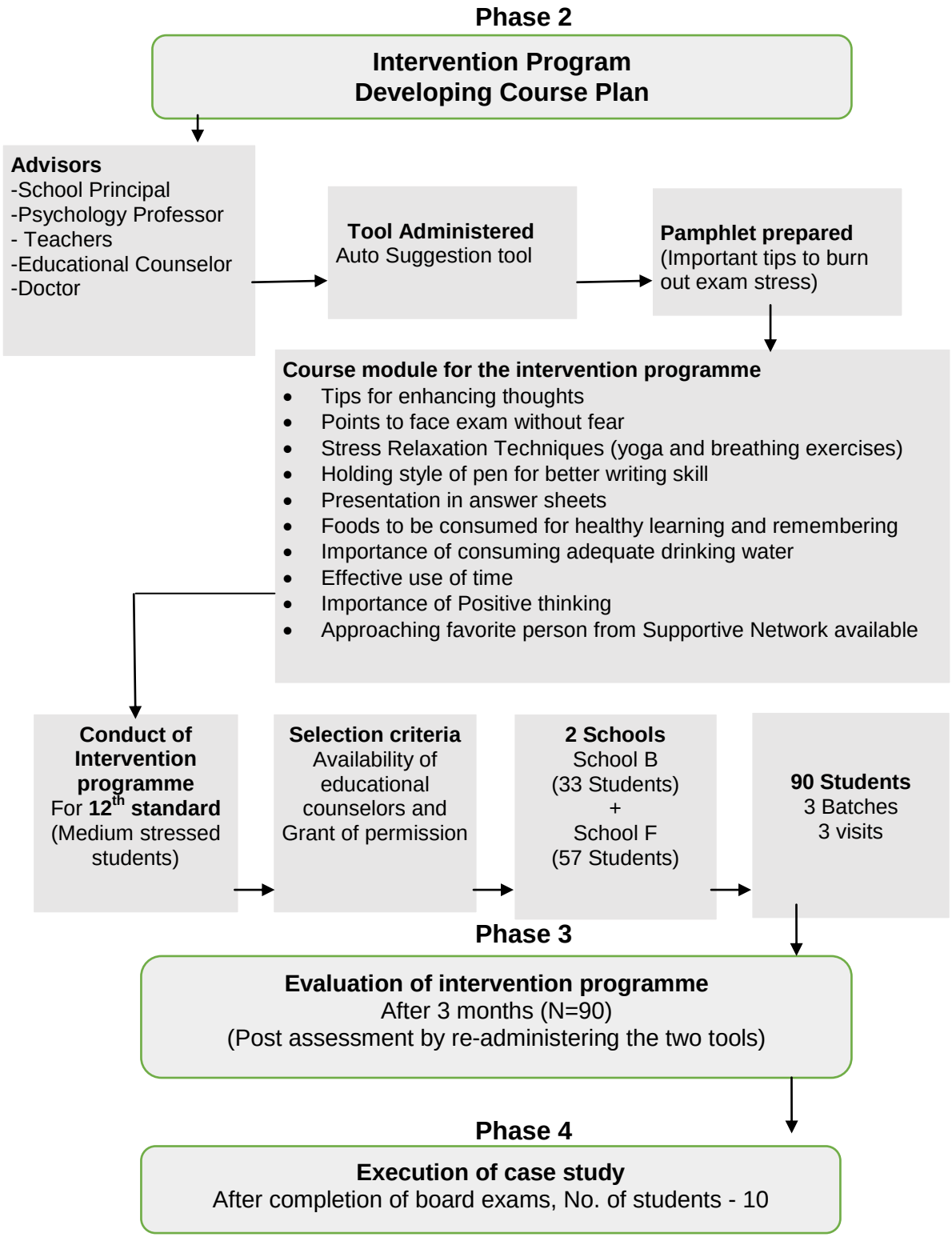


Figure 4: Schematic Representation of the Phases of the Study

3.1. Phase 1: Conduct of Survey among Higher Secondary Students

Data is the most basic requirement which paves way for investigation. In research, different methods and procedures have been developed for the acquisition of data. Due to its appropriateness and practicability the 'Survey method' with a questionnaire was used for the present study. Data from a large population can be gathered using survey. Groves (2011) stated that survey is concerned with describing, recording, analyzing and interpreting conditions that either exist or existed. Survey is a systematic method of gathering information from a sample of entities for the purpose of constructing quantitative descriptions of the attributes of a larger population of which the entities are members.

Gupta (2008) viewed survey as a method of collecting and analyzing data, obtained from a large number of cases representing a specific population with no control over factors that may affect population characteristics of the study, where the method helps to gather data from a relatively large number of cases at a specific time. Kothari (2012) suggested that survey is necessary, since it enables to gather relevant information from the selected samples on aspects pertaining to the study. Kothari (2004) also defined survey as a method of securing relevant information concerning a phenomenon under study since it has the advantage of wider scope and accuracy of information. Hence, the survey method was chosen as the most appropriate method for the collection of primary data pertaining to the study, and it was conducted to gather information required for the research, following the aspects given below:

3.1.1. Selection of Area
3.1.2. Selection of Sample
3.1.3. Identifying the Method of Study
3.1.4. Framing of Research Tool
3.1.5. Conduct of the Study and
3.1.6. Analysis and Presentation of the Collected Data

3.1.1. Selection of Area

In India expectations of excellence in educational performance is generally high. The value of education is rooted in the cultural beliefs and Indians believe educational achievement is the pathway to future success. Tamil Nadu is one of the most prosperous states in India. It is possible that industrialization led to heightened expectations for education and employment. Tamil the official language is widely spoken in the state. The state stands out for number of reasons and has a unique combination of structural factors (like high literacy rate, research with sustainable development, and urbanization) and cultural factors (valued modes of success, history of academic achievement), makes the pressure to excel in academics. Capital of the state – Chennai, was selected for the study. Chennai is the largest city in South India, and the fourth-largest city in the country. According to the 2011 census Chennai then had a total population of 8,653,521 at a density of 26,902/sq.km (https://en.wikipedia.org/ wiki/DemographicsofChennai, http://www.census2011.co.in). This was 0.694% of total India population (http://population.city/india/chennai). The data from the census (2011) revealed that the Indian literacy rate has grown to 74.04% (2011 figure) from 12% at the end of British rule in 1947. (https://en.wikipedia.org/wiki/ Literacy_in_India). The adult literacy rate in Tamil Nadu is 80.09% (http: //www. census2011.co.in/questions/7/state-literacy/literacy-rate-of-tamil-nadu-census2011.html), and in Chennai it is 90.18% both of which are much higher than that the overall adult literacy rate in India of 74% (http://www.census2011.co.in/census/district/21-chennai.html). Chennai is considered to have the best schools that guarantee quality education with most promising results every consecutive year with state ranks. Besides being the native of Chennai the investigator felt it convenient to select Chennai for her study due to familiarity to the area. Figure-5 shows location of the study area.

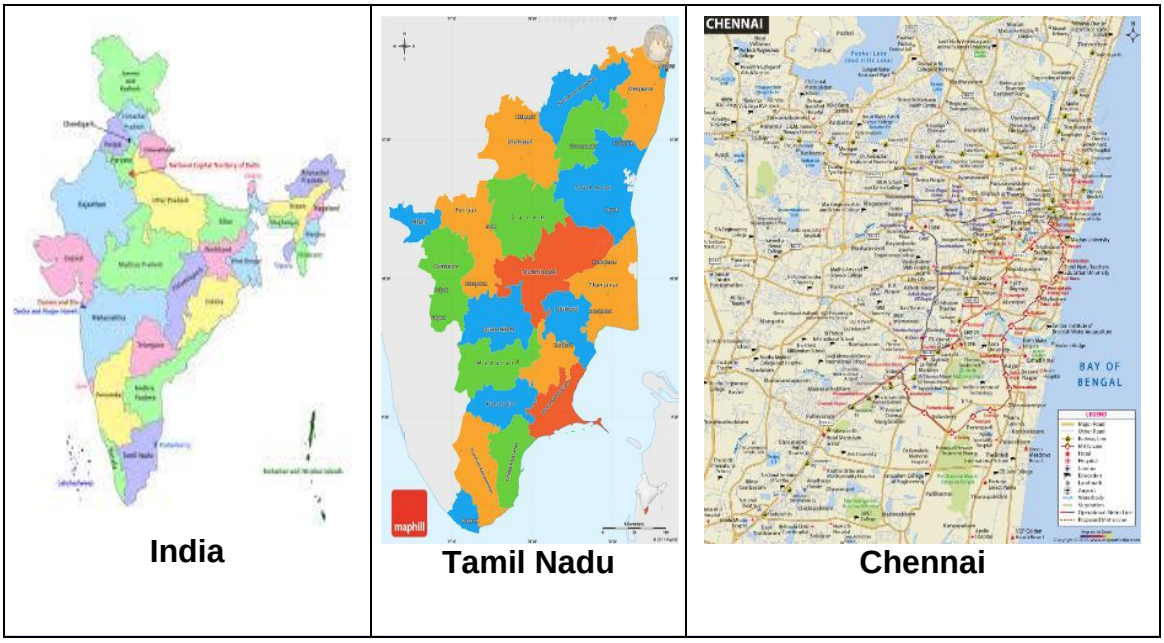


Figure 5: Location of the Study Area

3.1.2. Selection of Sample

A small part of anything intended as representative of the whole is called sample (www.thefreedictionary.com). The success of any study depends on the careful selection of the sample. A sample is a portion of the total population that is considered for the study and analysis (Chandan, 2008). According to Neeraja et al. (2015) a sample is a segment of the population selected to represent the population as a whole. Ideally, the sample should be the representative and allow the researcher to make accurate estimates of the thoughts and behavior of the larger population. The sample for the study was identified based on purposive sampling.

Kothari (2007) remarked that purposive sampling involves deliberate selection of a particular unit of the universe for constituting the samples which represents the universe. It is a technique in which a desired number of sampled units are selected deliberately depending upon the object of enquiry. It helps to exercise appropriate strategy to handpick the cases to be included in the sample that are satisfactory in relation to research needs. Saravanavel (2012) also stressed that in qualitative research, issues related to defining the overall population are generally treated as part of the purposive sampling.

Black (2010), revealed that purposive sampling (also known as judgment, selective or subjective sampling) is a sampling technique in which researcher relies on his or her own judgment when choosing members of population to participate in the study. Purposive sampling is a non-probability sampling method and it occurs when “elements selected for the sample are chosen by the judgment of the researcher. Researchers often believe that they can obtain a representative sample by using a sound judgment, which will result in saving time and money”.

Saravanavel (2007) affirmed that, purposive sampling is one in which the sample is selected according to one’s personal judgement. In other words, the investigator used his judgement in the choice and includes only those items of the universe in the sample which he considers are most typical of the universe. While choosing the sampling, only the average items are considered and extreme items are omitted. Hence, through purposive sampling method, the investigator selected the samples.

A study by Prabu (2015), on the stress experienced by students at the higher secondary level, inferred that science students were more likely to get stressed than commerce students This was also consistent with societal expectations, because most science students generally apply for admission to highly competitive programme in engineering or medicine.

It was observed from the study findings of Dharamvir et al. (2011), on “Study stress of school going students”, from Government, Government Aided and Private schools, it was revealed that stress level in these students from various school did not differ much. Neither boys nor girls students differ so far as the study stress is concerned but their age and parental encouragement influenced their study stress.

Hence the investigator decided to select only matriculation schools which maintain a medium standard in infrastructure. In order to select the samples from various schools prior permission was sort by the investigator. She identified twelve matriculation schools. The management of several schools which the researcher contacted was reluctant to issue permission to conduct the survey. The schools were selected based on the permission granted from the school authorities. Only six matriculation schools permitted

the investigator to conduct the survey. Hence the researcher had to select only the schools which responded to her request. A total of 1000 students in higher secondary science classes were selected for the study of which 500 eleventh and 500 twelfth standard students were selected. Details of distribution of selected students are given below:

Table 1: Distribution of Students among the Selected Schools

Selected Schools	Class	
	XI (N=500)	XII (N=500)
A	156	134
B	67	118
C	52	45
D	37	35
E	46	65
F	142	103

3.1.3. Identifying the Method of Study

Predesigned questionnaire method was adopted for collection of data from the students. Questionnaires are commonly used for data collection due to ease of analysis. A questionnaire consists of a set of well formulated questions to probe and obtain responses from respondents. Panneerselvam (2005) observed that the success of a survey depends on the strength of the questionnaire used. Graeff, (2005), remarked that a questionnaire is a schedule with a series of questions asked to individuals to obtain statistically useful information about a given topic. A questionnaire consists of number of questions printed in a definite order (Kothari, 2004).

3.1.4 Framing of Research Tool

The questionnaire was prepared in conformity with the objectives of the study. Great care was taken to see that the questions were unambiguous, clear, complete and comprehensive. The formulated questionnaire is appended in **Appendix- 1.** It embraced details on firsthand information with the following sections:

First section of the questionnaire was designed to focus on the conspectus of the students. Information such as age, family size, family type,

sibling details, school details, reasons for selecting their present school, mode of transportation and other input factors associated with resource availability were collected from the selected students. Questions with yes or no options were given score as 1 or 0. Depending on the type of questions i.e., positively framed statements and negatively framed statements scores varied. In order to find the time spent towards various activities scores were given as 2 if adequate time was selected by the student, 1 for some time and 0 for no time. For types of fatigue experienced by the selected students often was given the score of 2, sometimes as 1 and never as 0. Financial assistance consisted of question with yes or no option and it was given a score of 1 if they received financial assistance and 0 if they did not received. Next part with amount spent for non-academic activities if option nil was selected by the student score was given as 0, for amount between Rs. 10-50 score was 1, between Rs.51-100 score was 2 and above Rs. 100 score was 3. In addition to the above, details regarding their food preferences was also collected. This part consisted of 13 items with ‘yes’ or ‘no’ option. For positive food preferences a score of 1 was given to ‘yes’ and 0 to ‘no’. Above information were used to relate with other variables for critical evaluation.

The next part of the questionnaire was intended to collect details on parent involvement and the supportive network that was accessible to the students. Few questions were asked and the tool used for studying the various nature of support the students received from various sources was developed by the investigator. Parent involvement was found by ‘yes’ or ‘no’ option. The scoring of nature of support received through supportive network was analyzed categorizing as often, sometimes and never. A score of 3 was given to often, a score of 2 was given to sometimes and a score of 1 was given to never. The higher the score more is the supportive network accessible to the student.

The following section of the questionnaire was framed to analyze the various symptoms of stress (Psychological Symptoms, Emotional Symptoms, Physical Symptoms and Behavioral Symptoms), the students encountered during their higher secondary schooling in their academic field. Various symptoms of stress consisted of many items listed and was rated as

experiencing it often, sometimes or never. A score of 3 was given to often, a score of 2 was given to sometimes and a score of 1 was given to never. Higher the score more will be the symptoms of stress experienced by the student. The coping strategies the students adopted to relax when they experienced stress was categorized as practicing the given nine coping methods as often, sometimes or never. A score of 3 was given to often, a score of 2 was given to sometimes and a score of 1 was given to never. Higher the score more is the coping strategy the student practiced towards relieving from academic stress. The students were also asked to give other suggestions if any that can be followed by others to reduce academic stress effectively.

The last section of the questionnaire had two parts - Part A and Part B. Part A consisted of a stress questionnaire that aimed to assess the student stress. Student stress questionnaire was developed by Ministry of Social Security, National Solidarity and Reform Institutions, Mauritius (2012). The questionnaire consisted of twenty statements (**Appendix- 2**). These statements were answered on a 5-point scale. The scores were summed up for 20 items. Each point on the scale carries a score response, very often (4), often (3), sometimes (2), rarely (1), never (0). The scores obtained for each statement from the selected students were used to compute the total score and the total score thus obtained was taken for analysis. Based on the percentile analysis, the scores were categorized. Scores between 0-20 indicated a good control over stress, 21-40 a low level of stress, 41-60 a medium level of stress and 61-80 a high level of stress.

Part B comprised of the test anxiety questionnaire, a tool developed and standardized by Nist and Diehl (1990) was adopted to measure the test anxiety among the selected students with ten statements (**Appendix- 3**). A summative scale is one where the resulting scale score for an individual is the sum of the individual statement scores. The selected students were asked to rate the test anxiety they experienced as never, rarely, sometimes, often and always. Each item need to be scored by the students as to how often they have experienced the mentioned signs of test anxiety. The scoring consisted of a 5-point scale, in which scores were allotted as 1 to 5 respectively, to each

statement and the total scores were summed, which ranged between 10 and 50, where low scores between 10-19 indicated that students do not suffer from test anxiety, mid-scores between 20-35 implied that although students exhibit some of the characteristics of test anxiety, the level of stress and tension is healthy; and high scores over 35 showed that students experience unhealthy levels of anxiety. The results are discussed in Chapter 4.

3.1.5 Conduct of the Study

After obtaining formal permission from the school authorities, the students were contacted class wise as per the instruction given by the authorities at the time specified by them. The objective of the study was explained to the students and confidence was instilled in them. Then the required information was elicited using the questionnaire.

Kothari (2007) suggested that a pilot study is considered advisable to do some field observation through which the researcher may undertake some sort of preliminary survey or pilot survey. Pilot study or pre-test is the essence of a good schedule. Pilot study provides guidelines to acquire knowledge of the population, the approach to be followed in data collection and identify ambiguity in the questions (Saravanavel, 2012). Pilot testing is necessary and important since it helps to identify errors, confusing statements, typographical mistakes and ambiguous instructions in the questionnaire. It allows the author, to redesign the problematic parts of the survey before use. Wilkinson and Bhandarkar (2003) admit that a pretest helps the investigator to equip and understand an overall objective to measure each question precisely. Hence, a pilot study was done by administering the prepared questionnaire to 100 higher secondary science students to test its effectiveness. Students' responses were collected. The feedback of the pilot study helped the researcher to modify and refine the study according to the research problem and objectives. The final study was conducted after integrating necessary modifications. Based on the experience in pre-testing, the questionnaire was modified to avoid ambiguity and complexity. Open ended questions were also included in the questionnaire to get detailed information from the students. The necessary modifications were made by rectifying the lacunae identified, by this exercise. Babu (2008), emphasized that pilot study, helps in refining

the questionnaire to avoid biased or incorrect information thus increasing the reliability of the tool. The purpose of the pretest was to test the efficiency of the questionnaire. The questionnaire was validated by subject experts. The validity of the questionnaire was ensured by way of its content validity which refers to the extent to which a measuring instrument provides sufficient coverage of the topic. The content validity of the questionnaire was built in the process of its construction itself since the questionnaire was prepared after extensive review of relevant literature and subjected to expert's opinion (list given below).

While constructing the questionnaire, all precautions to be taken in the construction of a questionnaire were fully observed, as closely as possible. Regarding the method of establishing the validity of the questionnaire, it is necessary to have content validity which is the extent to which the measuring instrument provides adequate coverage of the topic under study (Kothari and Garg, 2014). Content validity necessitates that the questions in the questionnaire must be related to the topic under investigation adequately covering the objectives of the study and must be clear and unambiguous. Maximum care was taken to meet these requirements while constructing the tool and efforts were made to improve the items in the questionnaire. Ambiguous items were either removed or cleared and certain items were modified as required. Each and every item in the questionnaire was checked carefully and repeatedly, effecting modifications where ever necessary to ensure the content validity of the items. The adequacy of the questionnaire items with respect to the coverage, relevance and clarity were discussed with the subject experts and face validity was found to be high. The language used in the questionnaire was kept simple in a precise manner to the maximum extent possible so that it was comprehensible to all the students there by, adding to the validity of the tool.

Reliability reflects the degree to which an instrument or scale measures the same way each time which is used under the same condition with the same subjects. Thus it measures how consistent they are for each individual from one administration of an instrument to another and from one set of items to another. A measuring instrument is reliable if it provides consistent results

(Kothari and Garg, 2014). A tool is reliable if it is consistent within itself and across time. The questionnaire was prepared carefully in consultation with subject experts and was pre tested on 100 students with a gap of 3-4 weeks between the two administrations and comparing the responses to estimate their agreement. By test-retest there was agreement between the responses and the results ensured the reliability of the questionnaire. The results show high reliability and validity of the tool.

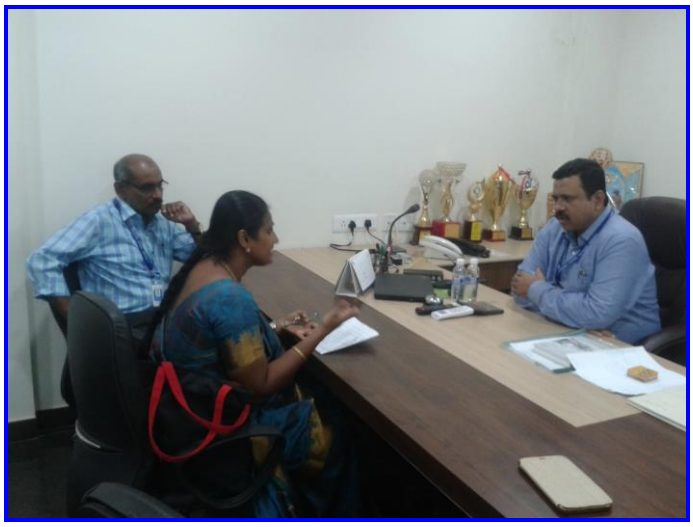
The list of experts included Dr.(Mrs.) Hemalatha Natesan (Ret. Professor, Dept of Psychology (Avinashilingam Deemed University, Coimbatore), Dr.(Mrs.) Malathy (Educational Counselor, Anna Adarsh College for women, Chennai), Dr.(Mrs.) Devi Manohar (Department of Home Science, Anna Adarsh College for women, Chennai), Mrs. Jayalakshmi Ramachandran (Principal Anna Adarsh Matriculation Higher Secondary School, Chennai), Mrs. Suganthi (Teacher, Leo School, Chennai), Mr. Ragudev (Vice-President Education, Agarwal Vidyalaya, Chennai), Mr.V.Venkatsubramanian (Trainer and Statistician, Nathan and Nathan Consultants Private Limited), Dr.(Mrs.). Niraimathi (Research Consultant, Chennai), Dr Rameshbabu and Dr.Balaji, Medical Practitioner, Chennai).

The Researcher directly met all the experts and their valuable suggestions were taken into consideration and incorporated to finalize the questionnaire. The researcher thus ensured that the questionnaire had requisite content validity, considered to be important for the study. The questionnaire was pretested and standardized for final administration.

Reddy (2009), opined that information has to be collected from individuals directly or indirectly. For choosing the samples for the survey, the researcher contacted both Government (Central and State) and Matriculation School authorities. Since seeking permission for conducting the research in Government schools required various approvals and series of protocols which was unapproachable, private matriculation schools were selected for the conduct of study. Besides the subject experts, the doctoral committee also suggested to select only matriculation schools. In consultation with Principals, School teachers, Educational counselors and Doctoral committee it was decided to conduct study among science group students (Maths, Physics,

Chemistry, Biology / Computer science), as they had a strong belief that science students face entrance exams for further professional courses and hence, comparatively had more exam anxiety than other groups. The study was registered for ethical clearance and the protocol was approved by the Institutional Human Ethical Committee**,** Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore. Ethical committee certificate with approval number AUW/IHEC/RM-15-16/XMT-17 is enclosed in **Appendix- 4**.

The Investigator went personally to selected Matriculation schools to fix an appointment with the school authorities and explained the purpose of study. Permission letters from selected schools regarding conduct of study is given in **Appendix- 5.** Upon grant of permission the researcher first met the school principal or the concerned school authorities to explain the future benefits to the students and in-turn to the society, side by side she was clarifying the doubts raised by them instantly. **Plate- 5** shows the investigator explaining the school authorities. Appointments were fixed in accordance with the availability of students without disturbing their practical schedules and exam schedules. The investigator had to be very careful in fixing up time for collecting the data to make sure the students were not disturbed by any means as every minute of theirs were very precious and the students were not hurt by any way. The study was conducted in three visits each in the selected six schools. In the first visit, the investigator explained about the study to the school authorities, second visit collected the required data from the students and in the third visit incomplete questionnaires were clarified and completed.



Investigator Explaining the School Authorities

Plate 5

On meeting the students, the investigator explained to them the purpose of the study and a good rapport was created by face to face interaction which helped in collection of data. Willingness of the student, interest in effective learning techniques and positive attitude were considered in the selection process, verbal assent from the selected students were also obtained before the investigation of the study. Students were given the assurance that the data provided by them would be kept strictly confidential and will be used for research purpose only. A survey process was conducted for two consecutive academic years, to catch with the exam related anxiety during the different terms of their study period. In case of doubts, if the student had left the questions not filled, the researcher motivated them to fill

the questionnaire and scrutinized to ensure its completeness. Every effort was made by the investigator to get reliable and accurate data from the students. Each student took about 25-35 minutes to complete the questionnaire. The images of the investigator explaining and collecting data from the selected students are given in **Plate- 6.** A total of 1018 students were selected for the survey. However, for the ease of calculation the investigator selected 1000 questionnaire from the filled in form among which 500 were from eleventh and 500 from twelfth standard inclusive both boys and girls. After collecting the data, responses were coded, edited, classified, tabulated and analyzed to find out the significant difference in resource availability and test anxiety among the selected students.

Investigator Explaining and Collecting Data from the Selected Students

Plate 6

3.1.6. Analysis and Presentation of the Collected Data

Panneerselvam (2005) revealed that data are the basic input on any decision-making process in a research. The processing of data gives statistics of the study. Kothari (2004) stated that the data collected has to be processed and analyzed in accordance with the outline laid down for the purpose at the time of developing the research plan. This is essential for a scientific study and for ensuring that all the relevant data for making contemplated comparisons and analysis is received. The data collected from the students were edited, classified, coded, tabulated, analyzed, presented and interpreted in the Chapter 4 Results and Discussions. Graphs and Figures were used for presentation of the data. The data obtained was subjected to statistical interpretation using statistical software SPSS (Statistical Package for Social Science) version 18.0. The descriptive statistics included number, percentage, mean, standard deviation and standard error of mean and the inferential statistics such as independent 't' - test, paired 't' - test, one-way analysis of variance (ANOVA), Pearson's correlation analysis, Pearson's chi-square, and regression analysis were computed.

Descriptive statistical analysis was used to present the conspectus of the selected students with information such as age, family size, family type, sibling details, school details, reasons for selecting their present school, mode of transportation and other input factors associated with resource availability, food preferences, parent involvement and the supportive network that was accessible to the students, various symptoms of stress, stress coping strategies, student stress level and test anxiety level.

Independent 't' - test was carried out to compare the resource availability, foods opted, parent involvement in student's academic performance**,** accessible support from supportive network, symptoms of stress, stress coping strategies, student stress level and test anxiety level between eleventh and twelfth standard students. One-way analysis of variance (ANOVA) was used to find out the impact of stress level and test anxiety level on symptoms of stress among eleventh and twelfth standard students. Pearson's chi-square was used to find the association between student stress level and test anxiety level of eleventh and twelfth standard

students on selected factors. Pearson's chi-square was also used to find the association between parent's wish on career choice and student handling them for differed opinion. Pearson's correlation coefficient was employed to find the inter-relationship between resource availability with student stress and test anxiety among selected students. Also correlation between various support accessible from supportive network and stress coping strategies followed among selected students and correlation between various support accessible from supportive network with student's stress among eleventh and twelfth standard students. Regression analysis was computed to predict the contributing factors to student stress and test anxiety. Paired 't' - test was employed to study the impact of intervention programme on stress level and test anxiety level among the selected students.

3.2. Phase 2: Initiating an Intervention Programme

The results of the survey among higher secondary students called for an intervention programme among twelfth standard students on coping with their academic stress. The word intervention refers to a specific type of meeting or interventions, which helps to change ways for healthier life (www.vocabulary.com). Sekaran (2006) also surmised that intervention programme aims to plan and attain an improved state of functioning by utilizing and applying valid knowledge. It starts with the people and situations as they are and then built towards the goal of better living. An intervention programme is an art intended to help in making things better. It includes educational programmes, new and stronger policies, improvements in the environment and health promotion campaign. As the subjects of this study were students, intervention programme is an effective step in the behavioral modification of the students. The content of the programme was based on the existing resource availability and symptoms of test anxiety. Techniques used were to improve their self-confidence, transform their negative thoughts into positive thoughts, to face the future without tension and fear, accept life as a challenge and lead it successfully. Verbal reinforcement may act as an important mediating factor in determining whether students feel competent when given performance-based rewards such as grades. Positive verbal reinforcement present in high-achieving school environments may serve to

diminish or increase intrinsic motivation; depending on the manner the reinforcement is applied. High expectations of achievement may be partnered with positive feedback, which has been shown to increase motivation. Positive verbal feedback enhances performance of students. Hence, lecture cum interactive discussions were adopted for better understanding of the concept of the programme.

The analysis and observation of the survey results pointed out the following points related to student anxiety towards examinations. Students couldn't pay attention in class, they were not sure of performance in exams, mostly felt lonely, most of them felt insecure, and too much of pressure because of studies and exams. To overcome the above problems, it was decided to educate the students on various aspects relating to advisable Do's and Don'ts to overcome exam anxiety as prescribed by educational counselors, auto suggestion tool was developed to help students to cope with exam anxiety effectively and to remediate symptoms associated with exam anxiety.

A research design is the arrangement of conditions from the collection and analysis of data in a manner that aims to combine relevance to the research purpose of economy in procedure. Experimental research design before-and-after without control design, was adopted for the present study. An experimental research design is the blue print of the procedure that enables the researcher to test the hypothesis by reaching valid conclusions about relationships between independent and dependent variable (Cauvery et al., 2013). Further it also gives the statistical way of defending the research hypothesis. Experimental Research Design before and after without control phenomenon was used for the present study. This part of the study consisted of the following steps.

- Selection of students
- Development of intervention programme content for the students
- Formulation of plan of work for intervention programme
- Conduct of intervention programme

Selection of students - Students expressed the need for suggestions and tips to enhance their positive thoughts which would help them to burn out exam stress. Only two schools permitted to conduct intervention programme along with their educational counselors' schedule in their campus. The intervention programme was integrated along with their schedule as per the suggestions from the doctoral committee. Ninety students participated in this programme. It shows the care taken by the schools to enhance the academic performance of their students.

Development of intervention programme content for the students - The findings of survey enabled the investigator to identify the gaps, needs and problems encountered by the students. There are different ways to use resources effectively and various methods to overcome exam anxiety. The best method for students was found to be a problem focused coping technique which is believed to lower the impact of anxiety among students. To benefit the target group, discussion was made on those lines with the subject-experts (Teachers and Psychologists). The intervention programme was carefully designed, tailored to meet the requirements of the selected students by imparting positive attitudes and motivating towards proper use of available resources and thus to reduce exam anxiety and aim for better performance. In order to achieve this goal, an effective auto-suggestion tool was developed in a form of pamphlet. Based on this, "Do's and Don'ts in approaching exams" and "top ten tips for self-enhancing thoughts" were prepared. The prepared pamphlet is given below.

Table 2: Autosuggestion Tool for Enhancing Positive Thinking

Ten important tips to burn out exam stress		
What to Do	***What not to do***	***Top-ten tips for self-enhancing thoughts***
Focus on what you know, If, one subject is boring read another subject	Do not have fear, tension or worry of study	I am bold, confident, intelligent and successful - I CAN ACHIEVE
Prioritize your schedule and adhere to time table or study any time suitable for you	Do not have inferiority complex / do not compare / do not feel lonely	I will be realistic and reasonable in my goals
Systemize your study time, life style and customize your learning style, study practices and environment	Don't have negative perception / thoughts / belief	I will love and have faith in myself
Appreciate yourself for the efforts made, have confidence, positive thinking	Do not grumble about others, do not take things personally and don't be emotional	I will feel God is with me all the time
Be self-disciplined, Wake-up early, concentrate in your studies	Don't postpone things for next day	I always feel myself healthy and happy
Do not forget to RELAX, have a deep breath and take quick break at regular intervals	Don't study when you are sleepy or anxious	Everyone likes me and I love every one
Listen to Music you like in low volume. Walk short distances or spend time the way you like for a short while (painting, sketching, singing etc.,).	Don't gaze at bright screens for long hours(television, computer monitors, mobile phones, tabs)	I will pray before I open my book and think my future is always going to be bright and successful
Look often and capture what you read (diagrams, formulas, definitions), Presentation can fetch more scores than what you deserve actually	Don't eat oily food, junk food, street food, carbonated beverages, too much salt and sugar	I am always optimistic, I live in present and enjoy the present
Practice to hold your pen with grip, it enhances speed and neatness, handwriting matters a lot in addition to subject matter	Don't have too much fatty food (meat, cake, cookies etc.,)	I breathe in positive thoughts and beliefs
Recall whole days' effort before sleeping (productive hours spent, mistakes done)	Don't be sedentary and waste your time.	I breathe out negative perceptions

Formulation of plan of work for intervention programme - Plan of work is an outline of activities so arranged as to enable efficient execution of the entire programme. Keeping the background, needs of the students and

availability of materials and time, a detailed plan was prepared. The steps followed in the plan are as follows:

Setting up objectives: The objectives of the intervention programme were:

- To create awareness among students with the Dos and Don’ts to fight against exam anxiety and write exams effectively
- To educate the students to follow and adapt top ten tips for self-enhancing positive thoughts
- To sharpen their focus and score well in exams with added self-confidence and
- To help students understand their potential and believe in themselves with sharpened focus to achieve their goals

Planning proper communication methods is essential to create and sustain the interest among students. Plan of visit was not the same for all schools. Multiple visits were made to find out the availability of school authorities and students to avoid disturbing them during their practical and other exam schedules. The topics covered are given in Table 3:

Table 3: Plan of work for Intervention Programme

Day	Plan / Topic	Authorities / Beneficiaries	Method / Technique	Expected Results
1	Making the school authorities to understand the importance of the auto suggestion tool.	• School Correspondents • Principal • School Authorities	Discussion	Permission to conduct intervention. Stimulation of the authorities to look forward for students' better performance in exams.
2	Importance of the auto suggestion tool explained to the students	• 2 schools (57 students from F and 33 from B) • 3 visits each • 3 batches • Coordinators • Teachers • Students	Lecture, Interactive group discussion	Co-operation for conducting and Participation in intervention.
	Distribution of pamphlets The students were also motivated with certain tips for enhancing thoughts with positive points to face exam without fear; stress relaxation techniques with simple yoga postures and breathing exercises; holding pen for better writing style; neat presentation methods in answer sheets; foods to be consumed for healthy learning and remembering; importance of consuming adequate drinking water; points on time management; benefits of positive thinking; and to approach a favorite person from supportive network available.	90 Students (Read pamphlet twice daily till completion of exams)	Lecture, Pamphlet distribution	Acceptance and Involvement with Change in the mind regarding self-esteem and self –enhancing thoughts that would help in the effective performance in board exams.
3	Collection of feedback after a period of 3 months, before board exams.	Students Group approach	• Discussion	Relieved from fear of facing exams with desirable change related to exam performance

Conduct of Intervention Programme - Paul and Sharma (2007) and Govind et al. (2011), elucidated that selection of appropriate communication methods are very essential to sustain the interest and disseminate the message to the selected audience. Face to Face individual contacts, lectures and focus group discussions were also used to create awareness on the part of school authorities, teachers and students. Purpose of the research and its significant importance were explained in detail among six schools selected for survey. The authorities were hesitant to grant permission to conduct the intervention programme as it would disturb the students. Only two schools though initially hesitant, upon request from the researcher permitted to take up the programme. After satisfactory explanation by the investigator the authorities accepted to conduct it as an extension of their regular school counselor's programme. The intervention programme was done among ninety students for duration of forty minutes. Before the commencement of the intervention programme students were presented a lecture on positive thinking and best efficient methods to use their available resources. Students from the selected schools had counseling sessions and motivation sessions from personality development trainers and educational psychologists hence they were more interactive during the group discussion and actively took part in the programme.

The intervention programme was conducted for the science group students as per the instructions given by the authorities at the time specified by them along with the presence of class teachers. The need for intervention, its importance and how to overcome exam fear were explained and pamphlets were handed over to the identified students. It consisted of Do's and Don'ts for a positive programming. They were advised to have them near their study area so as to help them to get motivated while they prepare for their approaching exam and go through it daily whenever possible. To invoke interest among the students the session was made interactive. Students queries on topics related to symptoms of stress and anxiety were clarified. This frank and free question and answer session helped in clearing myths and misconception about exam anxiety. The researcher also tried to provide scientific justification about anxiety and allay the fears regarding exam.

Investigator contacted students who required help, cleared if they were in a dilemma and kept them reminded to follow the tips given to burn out exam stress. Doubts were clarified and frequent contact over the telephone was also made to provide necessary motivation. The process continued for three months, as certain schools permitted early and some based on exam schedules and practical classes to be planned in between. Students upon continuous motivation geared up with interest to use their available resources effectively and recharge positively for a betterment to face exams without fear. **Plate- 7** shows the school students participating in intervention programme.

School Students Participating in the Intervention Programme
Plate 7

3.3. Phase 3: Evaluating the Impact of the Intervention Programme Conducted

Evaluation is an essential step in the intervention process. Evaluation is essential to determine whether the intervention programme has produced the desired effect as per the formulated objectives. It was felt important to evaluate the intervention programme to ascertain the knowledge gained by the students. Students' perception is the most sensitive measure of anxiety and provides the first indication of the intervention effectiveness.

After a period of three months the impact of the intervention programme was assessed in order to find out the effectiveness of the intervention programme. It would reflect how far the students have understood about the auto suggestion tool and how far they have been motivated to adopt the concept. A pre-post experimental design was used to assess the impact of the intervention programme. Stress questionnaire for students (2012) developed by Ministry of Social Security, National Solidarity and Reform Institutions, Mauritius and Test anxiety questionnaire by Nist and Diehl (1990), consisting of closed ended statements relating to exam anxiety which was administered before the intervention programme were re-administered after three months from the time of intervention and the post-test scores were determined to know the improvement in overcoming student stress and test anxiety. The evaluation of the impact of the intervention programme was done through pre-test and post-test scores of the students.

3.4. Phase 4: Executing a Case Study among the Selected Students

The researcher attempted to collect qualitative data using case study, as it was a growing trend and tradition in social sciences research. This method of research has become widely accepted around the world because of its nature. Among the ninety samples selected for the intervention programme ten students were identified for the case study. Willingness and cooperation were the main criteria for selection of the students. After seeking their consent by giving them an assurance for the confidentiality of the information given by them they were motivated to share their experience. In-depth interview was conducted with these students by the investigator to gain

an insight into their issues and concerns pertaining to resource use pattern and exam anxiety. It was more of an informal talk.

Patricia (2008) explicated that case study is a qualitative research and subjective in nature. It is a tool for investigating trends and specific situations, in addition to get information and in-depth perceptions of the participants. Qualitative research has been described as “an effort to understand situations in their uniqueness as part of a particular context and the interactions”; to strengthen the study design triangulation or the combination of methodologies is an important way using both quantitative and qualitative approaches. It is an approach where a particular instance is carefully selected and few cases are studied intensively”. Saravanavel (2012) reflected that case study method is an important tool of social investigation and a popular method used for collecting information about an individual or group.

The interaction was carried out during the time scheduled as per convenience of the selected students. Selected students were interviewed to state whether their performance and attitude towards exams have improved. To determine change with different tips and techniques, the percentage of change in scores was calculated. The scores indicated the change after the intervention programme conducted for the students and was associated with the significant improvement in overcoming exam fear. The impact of the intervention programme was recorded after board exams among ten students. The feedback received were recorded in the case study and presented in Chapter 4 Results and Discussion.