CHAPTER SIX

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS FOR
FUTURE RESEARCH

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CHAPTER SIX
CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

6.0 Introduction
This chapter presented the brief summary of the research work carried out by the researcher. This was followed by the findings based on data analysis and the discussion of the results carried out in the light of the findings. The researcher has carried out some Educational implications based on the findings of the study and also at the end made a few recommendations for further researches in the area of present study.

6.1 Summary
Statement of the Problem
Effectiveness of a Life Skills Programme on teacher trainees

Operational Definitions of the Key Terms
Various key words used in the present study - Life Skills, Life Skills Programme, Effectiveness and Pre service teachers are operationally defined as below:

LIFE SKILLS
Core skills include (WHO 1997: p.1) for the present study are Self-awareness skill, Interpersonal relationship skill, Effective communication skill, Problem solving skill, Decision-making skill, Creative thinking skill, Critical thinking skill, Empathy, Coping with emotions and Coping with stress.

LIFE SKILLS PROGRAMME
For the present study, the Life Skills Programme consists of the programme outcomes targeting to develop life skills, a series of learning activities and tasks based on the programme outcomes, techniques and the procedure to be employed which will involve the participants in working towards the achievement of one or more learning outcomes for developing core life skills mentioned above.

EFFECTIVENESS OF THE LIFE SKILLS PROGRAMME
Effectiveness of the Life Skills Programme for the present study means the enhancement in the life skills of pre-service teachers as evident through the difference between the pre-intervention scores and post-intervention scores.

**Research Objectives**

The research objectives of the study were:

1. To construct a situational test to assess the level of life skills of pre-service teachers in life related situations before and after the intervention- LSP.
2. To construct a Life Skills Scale (LSS) to assess the level of life skills of pre-service teachers before and after the intervention- LSP.
3. To explore the methods and strategies to impart life skills education, and to develop a Life Skills Programme (LSP) for pre-service-teachers.
4. To study the effect of the Life Skills Programme (LSP) by assessing the difference between pre-service teachers who participated in the program and who did not.
5. To study the effect of a Life Skills Programme on pre-service teachers with respect to gender, the area they belong to, the discipline they opted at higher-secondary school level and the educational qualification.
6. To find out the opinions of pre-service teachers (who participated in the programme) regarding Life Skills Programme.

**Variables involved in the Study**

Variables involved in the study Variables are the conditions or characteristics that the experimenter manipulates, controls or observes. In this study, the treatment variable was the implementation of the ‘Life Skills Programme’ to enhance life skills which was exposed to the pre-service teachers. And the attributed variables for the present study were gender, area, discipline opted at higher-secondary school level and educational qualification of the pre-service teachers. The dependent variable in the present study were life skills scores measured on life skills scale and situational test with respect to gender(female/Male), area they belong to (rural/urban), the discipline they
opted at higher secondary level (Arts/Science/Commerce) and the educational qualification of pre-service teachers (UG/PG).

Hypotheses of the study
In view of the preceding statement of the problem, this research is directed further by the following null hypotheses:

**Hypothesis framed by considering Scores on Situational Test**

H\textsubscript{01} There will be no significant difference in pre situational scores and post-situational scores between pre-service teachers who participated in the programme and who did not.

H\textsubscript{02} There will be no significant difference in pre situational scores and post-situational scores between pre-service teachers who participated in the programme and who did not, with respect to gender.

H\textsubscript{03} There will be no significant difference in pre situational scores and post-situational scores between pre-service teachers who participated in the programme and who did not, with respect to area.

H\textsubscript{04} There will be no significant difference in pre situational scores and post-situational scores between pre-service teachers who participated in the programme and who did not, with respect to discipline.

H\textsubscript{05} There will be no significant difference in pre situational scores and post-situational scores between pre-service teachers who participated in the programme and who did not, with respect to educational qualification.

**Hypotheses framed by considering Scores on Life Skills Scale**

H\textsubscript{06} There will be no significant difference in pre life skills scores and post life skills scores between pre-service teachers who attended the programme and who did not.

H\textsubscript{07} There will be no significant difference in pre life skills scores and post life skills scores between pre-service teachers who participated in the programme and who did not, with respect to gender.

H\textsubscript{08} There will be no significant difference in pre life skills scores and post life skills scores between pre-service teachers who participated in the programme and who did not, with respect to area.
H₀₉ There will be no significant difference in pre life skills scores and post life skills scores between pre-service teachers who participated in the programme and who did not, with respect to discipline.

H₁₀ There will be no significant difference in pre life skills scores and post life skills scores between pre-service teachers who participated in the programme and who did not, with respect to educational qualification.

Area of the Research
Fifth survey of educational Research (1988-92) mentions thirty-eight areas of educational research. The present research is having more relevance with certain areas: (1) Life Skills Education, and (2) Teacher- Education.

Research Design
The study incorporated quasi-experimental design namely Pre-test Post life skills Non-equivalent Experimental Control Group design. The experimental group was exposed to Life Skills Programme and the control group was given Life Skills Theoretical Orientation. The Life Skills Scale and Situational Test (at pre phase) were administered at the beginning of the experiment to both the groups to assess the pre-status of life skills and the use of life skills in real life situations of pre-service teachers. The Life Skills Scale and Situational Test (at post phase) were administered towards the end of the experiment to measure the enhancement level and to evaluate the effectiveness of the treatment, that is, Life Skills Programme.

Target Population & Sample
Population:
The target population for the present study was comprised the pre-service teachers of all 29 Colleges of Education affiliated to the Veer Narmad South Gujarat University.

Sample:
The investigator employed purposive sampling technique which falls under non-probability sampling method. The sample comprised 87 pre-service teachers, among them 41 pre-service teachers from the Vivekananda College
for B.Ed (served as experimental group) and 46 pre-service teachers from the S.R.Patel College of Education (served as control group).

**Instruments for Data Collection**

The Situational Test and Life Skills Scale (used at pre phase and post phase level) were used to assess the level of life skills before and after the intervention-LSP. A range of questions based on understandings of life skills and the practices of life skills in real life situations were incorporated in the situational test, and were employed before and after the intervention-LSP. The Life Skills Scale covered items that evaluated various constructs (indicators) of the core life skills inherent among pre service teachers. Programme Feedback Questionnaire, Focused Group Discussion and Field Notes and Observations were used to get opinions of pre-service teachers about Life Skills Programme, which was subsequently translated into Gujarati.

**Data Analysis and Interpretation procedures**

For statistical analysis, the data from the life skills scale and situational test were statistically analyzed using SPSS (Statistical Package for Social Sciences, version 15.0). Non-parametric tests such as Mann-whitney test (U) and Kruskal Wallis Test (H) were rightly applicable for the study. Quantitative data collected by means of the Life Skills Scale and Situational Test are examined through appropriate statistical procedures. The Mann Whitney U test was used for two independent sample cases and Kruskal-Wallis Test (H) was used for two paired measures. This test presents better results when the dependent variable is measured on an ordinal scale (John et al, 1981). The actual outcomes have been presented in an authentic manner by the researcher in the present chapter.

**6.2 Results of the study by hypotheses testing**

(a) The objective of the study was to evaluate effectiveness of a Life Skill Programme by comparing pre situational scores and post situational scores of experimental group and control to test H₀₁, which was, “There will be no significant difference in pre situational scores and post-situational scores between pre-service teachers who participated in the programme and who did
not”. After the analysis and interpretation of the data, the null hypothesis $H_{01}$ is rejected.

Hence Life Skills Programme was proved effective for pre-service teachers who attended the programme than who did not. Pre-service teachers who participated in the programme enhanced their life skills significantly through Life Skills Programme.

(b) The objective of the study was to evaluate effectiveness of a Life Skills Programme with respect to area to test $H_{02}$ which was “There will be no significant difference in pre situational scores and post-situational scores between pre-service teachers who participated in the programme and who did not, with respect to gender”. After the analysis and interpretation of the data, the null hypothesis $H_{02}$ is rejected.

Hence, it can be concluded that as an impact of the Life Skills Programme, Female pre-service teachers had higher life skills than the male pre-service teachers.

(c) The objective of the study was to evaluate effectiveness of a Life Skills Programme on situational Test with respect to area to test $H_{03}$ which was “There will be no significant difference in pre situational scores and post-situational scores between pre-service teachers who participated in the programme and who did not, with respect to area”. After the analysis and interpretation of the data, the null hypothesis $H_{03}$ is rejected.

Hence, it can be concluded that Life Skills Programme was found more effective for rural pre-service teachers than the urban pre-service teachers.

(d) The objective of the study was to evaluate effectiveness of a Life Skills Programme with respect to discipline to test $H_{04}$ which was “There will be no significant difference in pre situational scores and post situational scores between pre-service teachers who participated in the programme and who did not, with respect to discipline”. After the analysis and interpretation of the data, the null hypothesis $H_{04}$ is rejected.

Hence it can be concluded that there is no statistically significant difference in life skills scores between pre-service teachers having arts,
science and commerce discipline. However, considering mean ranks, pre-service teachers having science discipline had greater life skills levels than the pre-service teachers having commerce discipline and pre-service teachers having arts discipline had greater life skills than the pre-service teachers having commerce discipline.

(e) The objective of the study was to evaluate effectiveness of a Life Skills Programme with respect to educational qualification to test \( H_{05} \) which was, “There will be no significant difference in pre situational scores and post situational scores between pre-service teachers who participated in the programme and who did not, with respect to educational qualification (UG/PG)”. After the analysis and interpretation of the data, the null hypothesis \( H_{05} \) is accepted.

Hence, it can be concluded that the Life Skills Programme Life Skills Programme had shown equal and similar effect on pre-service teachers having UG degree and PG degree.

(f) The objective of the study was to evaluate effectiveness of a Life Skills Programme by comparing situational test scores of experimental group and control group to test \( H_{06} \) which was, “There will be no significant difference in pre life skills scores and post life skills scores between pre-service teachers who participated in the programme and who did not.” After the analysis and interpretation of the data, the null hypothesis \( H_{06} \) is rejected.

Hence, it can be concluded that the Life Skills Programme Life Skills Programme was proved more effective for pre-service teachers who attended the programme than who did not.

(g) The objective of the study was to evaluate effectiveness of a Life Skills Programme by comparing situational test scores of experimental group and control group with respect to area to gender \( H_{07} \) which was, “There will be no significant difference in prolife skills scores and post life skills scores between pre-service teachers who participated in the programme and who did not, with respect to area”. After the analysis and interpretation of the data, the null hypothesis \( H_{07} \) is accepted.
Hence, it can be concluded that Life Skills Programme had equal and similar effect for female pre-service teachers and the male pre-service teachers.

(h) The objective of the study was to evaluate effectiveness of a Life Skills Programme by comparing situational test scores of experimental group and control group with respect to area to test $H_{08}$ which was, “There will be no significant difference in pre life skills scores and post life skills scores between pre-service teachers who participated in the programme and who did not, with respect to area.” After the analysis and interpretation of the data, the null hypothesis $H_{08}$ is rejected.

Hence, it can be concluded that Life Skills Programme was more found effective for rural pre-service teachers than the urban pre-service teachers.

(i) The objective of the study was to evaluate effectiveness of a Life Skills Programme by comparing situational test scores of experimental group and control group with respect to discipline to test $H_{09}$ which was, “There will be no significant difference in pre life skills scores and post life skills scores situational scores between pre-service teachers who participated in the programme and who did not, with respect to discipline.” After the analysis and interpretation of the data, the null hypothesis $H_{09}$ is accepted.

Hence it can be concluded that there is no statistically significant difference in life skills scores between pre-service teachers having arts, science and commerce discipline. However, considering mean ranks, pre-service teachers having science discipline had greater life skills levels than the pre-service teachers having commerce discipline and pre-service teachers having arts discipline had greater life skills than the pre-service teachers having commerce discipline.

(j) The objective of the study was to evaluate effectiveness of a Life Skills Programme by comparing situational test scores of experimental group and control group with respect to educational qualification to test $H_{10}$ which was, “There will be no significant difference in pre life skills scores and post life skills scores between pre-service teachers who participated in the programme
and who did not, with respect to educational qualification (UG/PG).” After the analysis and interpretation of the data, the null hypothesis $H_{10}$ is accepted.

Hence it can be concluded that Life Skills Programme had shown equal and similar effect on pre-service teachers having UG degree and PG degree.

6.3 Major findings of the study

1. The Life Skills Scale (as Pre-test and Post-test) was developed and administered on pre-service teachers of both the groups to rate their life skills before and after the intervention-Life Skills Programme. Situational test (incorporating items/questions to assess the conceptual understanding and their behaviours in life-like situations) was also developed and employed to determine the effectiveness of the Life Skill Programme. The validity and reliability of the Life Skills Scale and Situational Test was estimated. The Life Skills Programme was implemented on a group of 41 pre-service teachers.

2. The Life Skills Programme was developed to improve the life skills of pre-service teachers. Appropriate activities/exercises were developed relevant to the nature of life skills (Self-awareness skill, Interpersonal skill, Effective communication skill, Critical thinking skill, Problem-solving skill, Decision-making skill, Creative thinking skill, empathy, Coping with emotions and coping with stress) as each skill demands different kind of methodology, materials, mode of participation-individual/pair/group and follow up procedure. (See Table 4.1 for the methodology and Table 4.2 for the activities/exercises of LSP in Chapter 4).

3. The Life Skills Programme was piloted on twenty four pre-service teacher educators to check the feasibility and validity of the programme and to evolve the programme to its advanced form. The findings of pilot study indicated that the overall impact of Life Skills Programme on pre-service teacher educators was significant. Also the findings revealed that the demographic characteristics (discipline and educational qualification) of the pre-service teachers does not affect significantly on life skills scores.
4. The results of the pilot study were encouraging as enrolment, and both retention and session attendance were high. The acceptability of the programme found very high as more than 90% participants indicated that they would recommend including in the teacher-education curriculum. Their understanding regarding life skills increased due to intervention- LSP. The findings revealed the need for life skills awareness and life skills training for prospective teachers. It was found from the analysis that the thrust life skill areas on which training required were empathy skills, decision making skills and coping with emotions. The life skills areas in which they have greater awareness were creative thinking skills and self-awareness skills.

5. The researcher had formulated ten null hypotheses to compare between experimental group and control group of main study. The programme was also evaluated with respect to the variables such as gender, area, the discipline opted at higher-secondary school level and the degree the pre-service teachers hold. The analysis of the data was done using non-parametric statistical techniques: Mann-whitney U Test and Kruskal Wallis Test. The hypotheses tested and the results are as below. By comparing the situational test scores of pre-service teachers of experimental group and control group and by comparing the life skills scores of experimental group and control group, the following results were found:

- The Life Skills Programme had a statistically significant effect for pre-service teachers who participated in programme-LSP than who did not, which indicates that the enhancement of life skills was due to practical and experiential teaching.
- The Life Skills Programme had a statistically significant effect on female pre-service teachers than the male pre-service teachers.
- The Life Skills Programme had a statistically significant effect on rural pre-service teachers than the urban pre-service teachers.
The Life Skills Programme had no statistically significant effect with respect to discipline. However, by considering the mean ranks, the Life Skills Programme had a statistically significant effect on pre-service teachers having science discipline than the pre-service teachers having commerce discipline. The Life Skills Programme had a statistically significant effect on pre-service teachers having arts discipline than the pre-service teachers having commerce discipline.

The Life Skills Programme had no statistically significant effect with respect to education qualification (UG/PG) of pre-service teacher. The Life Skills Programme had shown equal and similar effect on pre-service teachers having UG degree and PG degree.

6. The Programme Evaluation Questionnaire was administered to evaluate the Life Skills Programme. 85.37% participants responded the programme as very good. 95.12% of participants stated that they were benefited from the Life Skills Programme as through the activities of the programme, they could exhibited their hidden self, they developed confidence, they could enhance their communication skills, they could learn to listen and respect others’ views, they could become more empathetic towards the need of the others, they could develop skills to manage the children as a teacher and could identify the creative spark within them. The majority of the respondents appreciated most the activities like role play, drama, and games.

7. The findings gained through results of hypothesis testing and pre-service teachers’ opinions through Programme Evaluation Questionnaire was consistent with the feedback of the focused group discussion of the pre-service teachers after exposed to LSP. They are as follow:

- They liked most the activities like simulations, drama, role play, discussions wherein they had to exhibit them.
They realized that the life skills play very important role in one’s life and also for teaching profession as they have to deal with the adolescents and youth in future.

It was immersed from the responses of pre-service teachers through focused group discussion that the overall impact of programme enabled them to enhance in their empathy, interpersonal skills, communication skills and thinking skills.

8. The overall response regarding Life Skills Programme was positive and Life Skills Programme had a statistically significant effect on pre-service teachers of that particular college. But the reliability and validity of the study would have been increased,

- if the selection and assignment of subjects to groups could have done by randomization;
- if the study could use standardized tool-life skills scale;
- if teachers and parents would be involved to get feedback about the impact of Life Skills Programme on the participants in terms of their behavioural aspects,
- if the study could be extended for longer duration.

6.4 Educational Implications

1. It is fact that the life skills are a set of abilities that could not be measurable in a true sense but can be improved through continuous experience and practice through appropriate teaching-learning strategies. Teachers should be given life skills training through integration of life skills strategies into their classroom setting whether it is pre-service training programme or in-service training programme. Institutions and government efforts should be focused on to develop life skills module with the experts and to provide facilities for enhancing the Life Skills awareness among the Pre-service and In-service teachers. As government and educational initiatives has recommended integrating Value Education, Mural Education and SUPW in school curriculum, Life Skills Education should also be
given a place in the school curriculum either in isolation mode or can be integrated with other school subjects in a structured manner.

2. It is true that these skills cannot be taught within a limited time frame i.e. ten to forty sessions. Once the learners are oriented about life skills, it must be learned through conscious self efforts for a longer time span in real life situations. There must be regular training and motivation, constant exposure and practice to problem situations and feedback so that the positive behaviour can be learnt.

3. This programme can be used as an in-service training programme at all levels of education whether it would be primary, secondary, or higher secondary level with some modifications in learning experiences.

4. As the teachers have to deal also with adolescents and youth, it is very essential that they learn to behave as mature and balanced individual, possess different life skills and incorporate activities that facilitate a youth to have sound and quality life in the school and the society,

5. Pre-service and In-service teachers should be given Life Skills Orientation and training through the refresher courses, seminars, workshops to prepare them to deal with teenagers and youth.

6. If not in a strict manner to integrate life skills education at teacher education level, the teacher education programmes can make conscious efforts to teach the trainees the co-operative learning Strategies like role-play, drama, group discussions, games etc. not only on a theoretical base but they need to take a great care and provide such an environment in which they can practise such strategies. They should be forced not only to prepare their lesson based on bloom taxonomy but make sure that they really engage the class wherein the learners can develop such competencies in true sense. As the three categories of Bloom’s Taxonomy focus on development of cognitive, affective, psychosocial and psychomotor competencies, which are nothing but a set of life skills.

7. The teaching-learning process can be integrated with life skills content whenever they implement the co-operative strategies like role-play, drama, group discussions etc. Schools/colleges/institutes need to engage the students/trainees in various curricular and co-curricular
activities like celebrations of various types, various days’ celebration, value weeks’ celebration, extra mural classes, intra-class competitions, workshops, debates field visits and awareness programs (rally, excursions, and picnic) in an integrated manner with school-class-room settings as to develop life skills. This at least any institution can do if not able to provide Life Skills Education solely.

8. Various voluntary organisations (NGO’s) that work for quality life of people, for improving their life standard can include such life skills programmes.

6.5 Recommendations and Suggestions for further research

Analysis of the results based on the pre-service teachers’ performance through the test scores suggest that the life skills programme was found effective in enhancing life skills of pre service teachers. In addition, the pre-service teachers’ responses from the Programme Evaluation Questionnaire resulted in an overall positive evaluation. In view of the insights developed through the present study, the following suggestions have been recommended to accomplish further research in this particular area.

1. The Life Skills Scale developed and used by the researcher was not a standardized one. A standardized Life Skill Scale can be developed in Indian context to carry out need based analysis of life skills.

2. Similar intervention programmes can be extended with a larger sample and spread over a longer stretch of time (a semester or a year) to determine the long-term effect of the Life Skills Programme.

3. Life Skills Orientation/Awareness Programmes can be conducted at various levels of Education, which is reflected through the present study and also supported by the findings of the studies carried out by Paul et al. (1995), Bhave (1999), Sharma (2003) and Promod & Pereira (2011) pointed out that there is a need to develop life skills awareness and life skills constructs for teachers at all levels.

4. Appropriate modifications in developed Life Skills Programme could be of use to various groups according to their needs.

5. A comparative study of awareness of life skills among pre-service teachers and in-service teachers can be conducted.
6. Development of studies on teaching life skills by integrating with teaching of other subjects was countable in numbers. It was found from the review that only Kumari (2002) and Grover (2006) had related it with mathematical education and science education so far. Studies can be carried out to teach life skills through the ‘life skills learning across curriculum’ or ‘life skills learning through subject teaching’ can be experimented in a model schools.

7. A survey can be carried out to identify the life skills attributes/constructs among pre-service teachers and in-service teachers.

8. Parents’ and teachers’ feedback can also be considered to get insights about the effects of such programmes as they evidence most on the behaviour modification of the participants as they are the persons who remain very close to them.

9. A critical Study of the programmes offered by CBSE schools for imparting Life Skills Education can be carried out, as the Central Board of Secondary Education (CBSE) introduced life skills education in class 6th in 2003-4, in class 7th in 2004-5 and subsequently in classes 8th, 9th and 10th.

10. A survey for School students/Secondary Teachers/College teachers/University teachers/Teacher educators at the district, state and national level can be taken up to know status of life skills.

11. A case study of a school/institution can be carried out who provides Life Skills Education intensively.

12. Life Skills Programmes can also be offered to parents and interested community members and effectiveness can be measured.

13. A comparative study can be conducted by surveying life skills education trying out such Life Skills Programmes even for the urban and rural pre service teachers

6.6 Conclusion
To conclude, the research study was significant in establishing that the life skills programme provided innovative and creative ways of cultivating and enhancing pre service teachers’ life skills i.e. cognitive and psycho-social
skills. It helps to get insight into the use of Life Skills Programme for both the teachers and the students and for the society as a whole. Thirty five hour programme is a very short period to develop life skills; however the programme which is experiential and situation specific to the pre-service teachers was found significant at some level. Continuous practice of these skills ascertains the mastery over life skills and application of such skills into real life situations would lead the happy and healthy life.

The overall response regarding Life Skills Programme was positive and Life Skills Programme had a statistically significant effect on pre-service teachers of that particular college. But the reliability and validity of the study would have been increased,

- if the selection and assignment of subjects to groups could have done by randomization;
- if the study could use standardized tool-life skills scale;
- if teachers and parents would be involved to get feedback about the impact of Life Skills Programme on the participants in terms of their behavioural aspects,
- if the study could be extended for longer duration.