CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION
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RECOMMENDATION

5.1 Summary

Education is the necessary prerequisite for human resource development leading to better mental and physical health, improved socio economic opportunities and more congenial and beneficial natural environment for all. This has been envisaged in our National Policy of Education, which emphasizes universalization of Elementary Education and eradication of illiteracy as the first step in this direction. The need to establish meaningful linkages between the world of work and education has been felt due to the growing number of educated unemployed in our country. Vocational education has therefore been recognized as another area of priority in our National Policy of Education.

The two years of Higher Secondary stage of Education is very important because it marks the terminal stage of formal schooling for nearly one-half of those who join it. On an absolute scale, the number may now be close to a million each year in the country. This stage of education is also important because of the fact that it provides the bridge between the general education of the secondary stage and higher education in colleges or other professional and technical institutions.

Vocationalisation of education at this stage is the most important element in the 10+2+3 pattern of education. Diversification being the key word, the aim is to
channelize a considerable segment of student population into the programmes of
education in much wider fields in conformity with their aptitudes, abilities and
interest. In the absence of such diversification leading to a meaningful and
productive terminality of formal schooling, the country may have no other choice
than to go for the more expensive and often unproductive higher education on a
much larger scale in order to cope up with the consequences of universalisation of
elementary education as the national goal. Vocationalisation of Higher Secondary
Education is also a national imperative for the effective correction in the supply
system of manpower to keep pace with the planned developmental activities.

Realising the importance of vocationalisation of education at the Higher
Secondary Stage the National Policy of Education (NPE-1986) and its Programme
of Action (POA) subsequently modified in 1992 suggested for introduction of
vocational courses at the +2 stage as a separate stream. Accordingly, the centrally
sponsored scheme of vocationalisation of education at Higher Secondary stage was
started in the Country in 1989 in different states and union territories. In the same
year the scheme was implemented in Goa. Initially it was started in 16 Higher
Secondary Schools and 10 vocational courses were introduced. It had been
extended to 39 Higher Secondary Schools till July 2000 (when the present
investigation was started). And it has now been extended to 42 Higher Secondary
Schools. The number of courses has been increased to 16 over the years (till June
2004).

There are no two views about the fact that evaluation forms an important
part of any scheme or programme that is implemented. Scholars are of the view
that evaluation should be an in-built feature of any programme/scheme for its quantitative expansion and qualitative improvement and the scheme of vocational education cannot be an exception. The purpose of evaluation is to judge the effectiveness of instructional facilities, curriculum, teaching aids, financial resources etc. of a programme or scheme. Results of an evaluation study ultimately helps in taking the necessary measures for improvement.

After the implementation of the CSS in Goa, a study entitled ‘Quick Appraisal of the Implementation of Centrally Sponsored Scheme of Vocationalisation of Secondary Education’ was conducted by Vaid and Gupta (1990). As the title suggests, the study was aimed at making only a quick appraisal of the implementation of the CSS of Vocationalisation of Education in the state of Goa. It examined various aspects of the scheme in order to identify the strong and weak points in its implementation and recommendations for improvement. However, the study had many limitations. The study was conducted in just 5 days. The data were collected only from those teachers who were present at the time when the researchers visited the schools. None of the aspects were studied in depth. Moreover, the scheme was just one year when the study was conducted and not a single batch of students had completed the course. More than a decade has passed since the implementation of the scheme and no investigations have so far been conducted to evaluate the scheme. Many students have already successfully completed the vocational courses so far. Hence, it was considered the right time to evaluate the scheme in totality. A micro level study of this type would go a long way for the qualitative improvement of vocationalisation of education at the +2
stage in Goa. Therefore, the investigator conducted the study with the following objectives in mind.

1. To study the appropriateness of the management system of the centrally sponsored scheme of vocationalisation of education (CSSVE) at +2 stage in Goa.

2. To study the adequacy of financial resources for the CSSVE in Goa.

3. To study the extent to which the enrolment target in the vocational stream has been achieved.

4. To study the enrolment trends in the vocational stream from the starting of the course till 2002-03.

5. To find out the appropriateness of the educational qualifications and experiences possessed by teachers teaching in the vocational stream.

6. To study the in-service teacher education programmes conducted for the teachers teaching in the vocational stream.

7. To find out the adequacy of number of teaching and non-teaching staff appointed in different schools in the vocational stream.

8. To study the adequacy of the physical facilities available in different institutions for the vocational stream.

9. To study the adequacy of the facilities available in terms of laboratories, workshops, plots, equipments, materials and teaching learning aids in different institutions.

10. To study the appropriateness of the evaluation system followed in the vocational stream.
11. To study the appropriateness of organization of on-the-job training programme in different courses.

12. To study the apprenticeship training facilities available for different vocational courses.

13. To study the relevance of vocational courses in the Goa situation.

14. To study the problems, if any, faced by the students graduating from the vocational stream in terms of
   a) getting employment
   b) pursuing further studies.

15. (a) To study the direction and intensity of attitude towards vocational courses of the students studying in the vocational stream.

   (b) To study the attitude towards vocational courses of students in relation to family economic status, parents' educational qualifications, academic achievement and types of vocational courses.

16. To prepare the profile of the students studying in the vocational stream.

Descriptive evaluative survey method was followed in conducting the present study. Since it is an evaluative study, the researcher developed/prepared paradigm of criteria for evaluation except (for objective No. 16 of the study). Data for the present study were collected from 39 Principals of Higher Secondary Schools having Vocational Streams, 206 teachers teaching different Vocational Courses, 1001 students of Class XII, 409 graduates of the Vocational Streams, 30 in-plant Supervisors, Officials of the Directorate of Education (3), Goa Board of Secondary and Higher Secondary Education (3) and State Institute of Education (1). Data were also collected from different sources as stated below:
1. School Records: marks obtained by the students at SSC (Class-X) examination (for Objective Nos. 15 and 16).


3. Office Records of GBSHSE (for Objective Nos. 4, 6 & 10).

4. Certificates issued by the workstation/potential employer (for Objective No. 11).

5. Office records of different general colleges in Goa (regarding student enrolment) at +3 (Objective No. 14).


The following data gathering tools were developed/prepared and used by the researcher to collect the required data.

1. Questionnaire for Principals

2. Questionnaire for Teachers

3. Response or Data Sheet on Teaching-Learning-Aids/Equipment for Teachers

4. Questionnaire for Students

5. Attitude Scale

6. Questionnaire for Graduates of Vocational Stream

7. Information Schedules to collect information from the office records

8. Interview Guides for officials of Directorate of Education (Vocational Wing), GBSHSE, SIE, Principals, Inplant Supervisors, Teachers and graduates of the vocational stream.

The collected data were analysed employing the following data analysis methods and techniques.

1. Frequency and Percentage analysis
2. Calculation of Mean
3. Content Analysis
4. Pearson Product Moment Method of Correlation (r)
5. t-test
6. One-way Analysis of Variance (ANOVA)
7. q-test.

5.1.1 Major Findings

The major findings of the study are given in the following pages.

1. Appropriateness of Management of Vocational Education at +2 Stage

- A State Council of Vocational Education (SCVE) as well as District Vocational Educational Committees (DVECs) as envisaged for the scheme have not yet been set up in Goa. Moreover, the State Institute of Education does not have a Vocational Wing. The government of Goa has not taken initiative so far for setting up of SCVE and DVEC. There is no other agency to discharge the functions envisaged for SCVE, DVECs and SIEs (Vocational Wing).

- A separate Vocational Wing has been created in the Directorate of Education which is incharge of other schemes/programmes besides the
CSS. The functions of the vocational wing includes granting permission to institutions to start vocational courses based on the feasibility report prepared by it after receiving applications from schools, implementing the decision of the NCERT, Ministry of HRD and Government of Goa relating to the vocational scheme, providing grants to the schools for the vocational stream, and auditing the accounts.

The functions of GBSHSE with regards to vocational stream includes preparation of syllabus, granting of affiliation, inspection and supervision, examination and certification and organisation of in-service teacher-education programmes.

In all the schools either the Vice Principal or the Senior Teacher is in charge of the Management and implementation of the vocational courses at the school level. However, it was found that no school builds up contact and linkages with the community, provides no guidance or placement services to the students, maintains no records of the job placements of students graduating from the stream as envisaged in NPE-1986 and its POA.

2. Adequacy of Financial Resources

The officials of the Directorate of Education stated that the central government used to provide grants to the state government on time as per the sharing pattern envisaged under the scheme. The state government used to make available funds as per the requirements of Vocational Stream. However, the officials refused to show/reveal the actual accounts of the vocational stream.
- Majority of the Principals and the teachers (in charge of the vocational courses) stated that the raw material grants are inadequate for all the courses in general and very inadequate for the vocational courses like Bakery and Confectionary, Catering and Restaurant Management and Automobile Technology.

- Forty-one percent of the Principals stated that grants were not released by the state government on time.

- Thirty-three percent of the principals stated that the Grants provided by the government for purchasing of equipment in some of the courses were inadequate.

- Though the officials stated that there was no financial constraints as far as the vocational stream is concerned, they were not in favour of increasing the salary of part-time teachers.

3. Achievement of Enrolment Target

By the year 1990-91, 12.3 percent of the total enrolment of students at the +2 stage were in the vocational stream, which was slightly more than the target (10 percent) set by the NPE-1986. By the year 1995-96, the enrolment in the vocational stream was only 14.6 percent of the total enrolment at the +2 stage which was far below than the target of 25 percent set by NPE-1986. In the year 2000-2001, only 17.8 percent of the total enrolment at +2 stage were in the vocational stream, which was far below than the target set (i.e. 25 percent) by the revised NPE-1992.
4. Enrolment Trend since the Starting of the Vocational Stream till 2002-03
- There has been substantial increase in enrolment in the vocational stream in Goa between the years 1988-89 to 2002-03. The enrolment in 2002-03 was around five times more (4299 students) compared to the enrolment figure in 1988-89 (841 students). During the same period there was six fold increase in enrolment of girls in the vocational stream (from 303 in 1988-89 to 1817 in 2002-03). In the case of boys (the increase was 4.6 times (increased from 538 in 1988-89 to 2482 in 2002-03).
- As many as 15432 students have successfully completed the vocational courses so far (till March 2003).

5. Appropriateness of Educational Qualifications and Experiences of Teachers
- Eighty-Seven percent of the full time teachers possessed the prescribed essential educational qualifications and experiences. The remaining 13 percent of the teachers possessed the prescribed essential educational qualifications but did not have the prescribed essential experiences.
- Only 25.7 percent of the part-time teachers had the prescribed essential qualifications and experiences. None of the remaining three-fourths of the part-time teachers had the prescribed essential experiences at the time of their appointment though majority of them had the essential educational qualifications.
- None of the full-time as well as the part-time teachers possessed the prescribed desirable qualifications and experiences.
- Due to low remuneration experienced persons/professionals/people from industries were not interested to join on part time basis/lecture basis.
6. Adequacy of Teacher In-service Education Programme

- A total of 54 in-service teacher education programmes (seminars and workshops) have so far been conducted (till May 2002) for the teachers of the Vocational Stream in Goa.

- The number of programmes conducted varied between one to ten from one course to the other. The GBSHSE and PSS Central Institute of Vocational Education, Bhopal used to conduct in-service programmes for the vocational teachers of Goa. Most of the programmes conducted so far were by PSSCIVE at Bhopal for which teachers were deputed through GBSHSE from Goa. Some of the programmes were conducted by GBSHSE in Goa with financial assistance from PSSCIVE.

- It was found that except in Computer Technique, Office Secretaryship and Stenography, Electronic Technology, Accountancy and Auditing in other courses either one or two programmes have been conducted. No in-service teacher education programme have so far been conducted for teachers teaching Tourism and Travel Technique and Floriculture.

- Though almost all the full time teachers have attended/participated in in-service programme the teachers have participated/attended only once or twice except the teachers teaching Computer Technique who had participated/attended many programmes.

- No general orientation programmes for all the newly recruited teachers and course specific refresher courses have so far been conducted.

- Only a few of the part-time teachers of some of the courses have participated/attended in In-service Teacher Education Programmes.
- It was found that most of the teachers show no interest to attend/participate in-service programme when conducted by PSSCIVE at Bhopal.

7. Adequacy of Teaching and Non-Teaching Staff

- It was found that 32 out of 39 schools (82 percent) had the required number of teaching staff i.e. 2 full time and 2 part time teachers for each vocational course.

- About 45 percent of the teachers felt that their workload was more than what it was supposed to be due to insufficient number of part time teachers.

- Twenty-five schools out of 39 (64 percent) had adequate number of administrative and support staff. The remaining fourteen schools (36 percent) had no clerk or peon/helper for the vocational stream.

- Twenty-one out of 28 schools (75 percent) had the required number of technical staff. The remaining schools had no adequate number of technical staff.

8. Adequacy of Physical Facilities

- The principals of 38 schools out of 39 (97 percent) stated that they had the adequate number of classrooms for the vocational stream. The number of classroom varied between 2 and 14 from one school to the other.

- Only 22 school out of 39 (56 percent) had store room facilities.

- Ninety percent (35 out of 39) schools had adequate number of cupboards to keep the teaching aids/instrument.

- Eighty-two percent (32 out of 39) schools had teachers' common room.
9. Adequacy of Facilities Available in terms of Workshops/Worksheds/Plots, Raw Materials and Teaching-Learning Aids

(a) Office Secretaryship and Stenography

- Twenty-one out of forty-eight (44 percent) of the teaching aids/equipments were found available in all the schools and four out of forty-eight (8.3 percent) of the teaching aids/equipment were not available in any of the schools teaching Office Stenography and Secretaryship course. Also it was found that eleven out of 48 (23 percent) of the teaching aids/equipment were available in most of the schools.

- About 29 percent (14 out of 48) of the teaching aids/equipment were adequately available in all the schools. The remaining 34 out of 48 (71 percent) of the teaching aids/equipment were not adequately available in all the schools.

(b) Computer Technique

- Only 60 percent of the schools having Computer Technique Course (6 out of 10) had the required number of computers.

- About 41 percent (14 out of 34) of the teaching aids/equipment were available in all the schools and 10 out of 34 (29 percent) of the teaching aids/equipment were found available in majority of the schools.

- Nearly one-half of the teaching aids/equipment were not adequately available in a substantial number of schools.
(c) Accountancy and Auditing
- Thirty-four out of 35 (97 percent) of the teaching aids/equipment were found available in all the schools offering Accountancy and Auditing Course.
- All the schools except one reported that they had the required number and type of teaching aids/equipment.

(d) Insurance
- About 92 percent (24 out of 26) of the teaching aids/equipment were available in all the schools having the vocational course Insurance.
- Only in one school out of four (25 percent) the teaching aids/equipments though available the same were adequate.

(e) Electronic Technology
- Two-thirds of the schools (4 out of 6) offering Electronic Technology Course had adequate number/size workshop and the remaining did not have the same.
- Only 39 out of 77 (51 percent) teaching aids/equipment were available in all the schools and 29 out of 77 (38 percent) of the teaching aids/equipment were available in two-third of the schools.
- Nine out of 77 teaching aids/equipment (12 percent) were not available in any of the schools.
- Only 30 out of 77 (39 percent) of the teaching aids/equipment available in the schools were adequate in all the schools.
- As many as 38 teaching aids/equipments were available but not adequate in some of the schools.

(f) Automobile Engineering Technology

- It was found that 70 percent of the schools offering this course had the required workshops and the remaining schools (3 out of 7 schools) did not have adequate number of/size workshops/workshed.
- Only 25 out of 95 teaching aids/equipment (26 percent) were available in all the schools having Automobile Engineering Technology Course.
- Nearly 14 percent (13 out of 95) of the teaching aids/equipment were not available in any of schools offering this course.
- Around 68 percent (65 out of 95) of the teaching aids/equipment were available but not adequate in some of the schools.

(g) Bakery and Confectionary

- All the Higher Secondary Schools offering this Course had the necessary teaching aids/equipment and the same were adequate in all the schools.

(h) Maintenance and Repairs of Electrical and Electronic Domestic Appliances

- Two out of 10 schools offering this course did not have workshop/workshed of adequate size/number.
- About 37 percent (35 out of 95) of the teaching aids/equipment were found available in all the schools. And 33 out of 95 (35 percent) of the teaching aids/equipment were available in majority of the schools.
Eight out of 95 of the teaching aids/equipment were not available in any of the schools offering this course.

Nearly 43 percent (41 out of 95) of the teaching aids/equipment were available in schools but the same were not adequate in many of the schools.

(i) Commercial Garment Designing and Making

- Eighty percent of the schools offering this course had workshops/workshed as per the requirements.
- All the schools had all the required teaching aids/equipments to teach theory and conduct practicum in Commercial Garment Designing and Making.

(j) Floriculture

This course is offered only in two schools. Both the schools reported that they had the required land/plots and had all the required teaching aids/equipments relating to the course.

k) Marketing and Salesmanship

This course is offered in only one school. The school reported that it has all the necessary teaching aids/equipment to teach the theory and conduct practicum effectively.

l) Catering and Restaurant Management

- Only 12 out of 49 (25 percent) of the teaching aids/equipment were found available in all the schools. And four out of 49 of the teaching
aids/equipment were not available in any of the schools. The remaining
teaching aids were not available in some of the schools.

- It was found that as many as 20 out of 49 teaching aids/equipment though
available in majority of the schools the same were not available in adequate
quantity in some of the schools.

m) Horticulture

- Only three out of five schools offering this course had the necessary
land/plots and the remaining 2 schools did not have adequate land/plots.

- Two-thirds of the teaching aids/equipment (40 out of 60) were found
available in all the schools and three out of 60 were not available in any of
the schools offering this course.

- About 58 percent (35 out of 60) of the teaching aids/equipment were
adequately available and the remaining 25 out of 60 (42 percent) of the
teaching aids/equipment were not adequate in many of the schools.

n) Industrial Management

- This course was found offered in only one vocational Higher Secondary
School in the state. The school reported that all the teaching aids/equipment
available were adequate to teach the course effectively.

o) Travel and Tourism Technique

It was found that 30 out of 32 of the teaching aids/equipment were
available in all the schools offering the Travel and Tourism Technique course.
Moreover, all the schools reported that except three all other teaching
aids/equipment were adequate to teach the course effectively in all the schools offering this course.

10. Appropriateness of the Evaluation System

- The GBSHSE has prepared the scheme of evaluation both internal and external to be followed by the vocational schools which means that the schools used to follow the standardized scheme uniformly. Hence the evaluation system lacked flexibility.

- The performance of students of Class XI is assessed by administering written test thrice in the year i.e. First Mid Term Test, First Term Examination and Second Term Examination. Besides the test and examination there is provision for one project/assignment only during the first term in some of the courses and one project/assignment in each of the two terms in some other courses. The same procedures are followed to assess the performance of Class XII except the final examination which is conducted by GBSHSE.

- The schools used to evaluate two practicals in each of the subject in each of the particular course.

- It was found that the teachers do not use any checklist or rating scale or any systematic procedures to assess the performance of students in practicals. In the case of most of the courses the components for assessing practicals and criteria for assessment were not clearly spelt out.

- The final examination in Class XII was found conducted by GBSHSE was found entirely external and the performance of students at the internal
examination conducted in the school was not considered for the award of class or division by the GBSHSE.

- The performance of students in the school assessment subjects and on-the-job training are shown in terms of grades whereas the performance in other areas is shown in terms of marks.

11. Appropriateness of Organisation of On-the Job Training

- Thirty-six out of 39 schools (i.e. 92.3 percent) did not have the provision for identifying the teacher coordinator for all the vocational courses offered in the schools.

- None of the schools used to prepare students profile or organizational profile.

- None of the schools used to follow the prescribed criteria in selecting the work station.

- No schools used to follow any systematic job allotment procedures. It was observed that in almost all cases the students are sent to the workstations which are located nearby.

- Except two schools no other schools used to organize orientation programme for students before they actually start working in the job stations.

- The duration of on-the-job training followed by the schools in all courses except in Horticulture and Floriculture was less than what is prescribed in NCERT guidelines.
Most of the inplant supervisors were indifferent towards the work of the trainees. Also most of the vocational teachers were not serious with regard to the day to day work of the trainees.

No checklist or rating scale, the supervisors used to use in making observation/supervising the work of the trainees.

In many organisations the trainees were asked to do many other works by the concerned organisation other than what they were supposed to do during OJT.

It was found that the inplant supervisors play no role with regard to evaluation of students during OJT. In almost all courses the concerned organisation used to issue a certificate of attendance and participation of students in the training programme. Based on the certificate of attendance and the diaries submitted by the students the school used to conduct viva-voce and award grades to the students.

No schools used to issue a separate certificate to the students specifying the details regarding the participation and performance of students in OJT.

No schools used to prepare comprehensive budget for OJT.

None of the schools used to collect feedback from students and supervisors about the OJT programme in a systematic manner.

12. Availability of Apprenticeship Training Facilities

Out of 15 courses the graduates of the vocational stream from Goa had availed apprenticeship facilities only in nine subjects such as Accounting and Auditing, Maintenance and Repairs of Electrical and Electronic Domestic Appliances, Office Secretaryship/Stenography, Automobile

- Only the students of 12 schools out of 39 schools (30.7 percent) have so far availed apprenticeship facilities.

- It was found that the schools do not maintain records regarding participation of their students in apprenticeship training. As a result it was not possible to find out the exact number of ex-students who have availed such facilities. According to the principals and teachers a small percentage of ex-students have got this opportunity so far.

- It was found that the duration of apprenticeship is one year for all the trades.

- The stipend paid to apprentice varied between Rs. 450 – Rs. 1000.

13. Relevance of Vocational Courses in the Goan Situation

- Thirty-seven out of 39 Principals (95 percent) stated that the vocational courses offered at the +2 stage are relevant in the Goa situation.

- Eighty-five percent (33 out of 39) of the principals were of the view that the graduates of the vocational stream are competent for both wage and self-employment.

- Eighty-nine percent of the teachers (184 out of 206) stated that the vocational courses offered at +2 stage are very much relevant to the Goan situation.
- All the Principals and 99 percent of the teachers were of the view that the students after successful completion of vocational courses are competent enough to get employment.

- Ninety-two percent of the teachers (190 out of 206) stated that graduates of vocational stream are eligible to get jobs in Goa.

- Thirty percent of the graduates who were employed stated that the knowledge and skills gained by them during their study are very much useful in their present job but 69 percent had stated that knowledge and skills gained by them are useful to some extent.

- Only 42 percent of the graduates of the vocational stream (i.e 172 out of 409 graduates included in the study) were found employed.

- Of the graduates who were employed, 95.4 percent (164 out of 172) were employed in Goa and the remaining 8 (4.6 percent) were employed abroad (in Gulf countries)

- About 70 percent of the employed graduates were found employed in the private sector, only 11 percent had got government jobs and only 18 percent were self-employed.

- It was found that the range of salary/monthly income of the employed graduates of various courses varied between Rs. 700 to Rs. 20,000.

- It was found that mostly the graduates of certain courses like Bakery and Confectionary, Catering and Restaurant Management, Horticulture, Floriculture, Computer Technique, Electronic Technology, Commercial Garment Designing and Making, Salesmanship and Maintenance & Repair of Electrical and Electronic Domestic Appliances were self-employed.
- Office Secretaryship & Stenography and Accountancy and Auditing were found offered in highest number of schools compared to other courses. But these two courses were found least useful for employment, particularly for self employment.

14. Problems Faced by Graduates of Vocational Stream

- Only 25 percent of the employed graduates stated that they get jobs after/within one year of the completion of the vocational courses.

- Fifty-eight percent of the graduates stated that they did not get jobs even after three years of completion of the courses.

- Nearly 29 percent of the employed graduates were working in some other fields than the one in which they were trained.

- About 27 percent of the employed graduates had stated that they got jobs only after studying other courses after completing +2.

- It was found that the average per month salary/income of the employed graduates was Rs. 2456 only.

- The graduates of the vocational stream used to take up very low paid jobs in the private sectors because of the non availability of jobs and due to financial problems.

- The graduates of the vocational stream used to prefer wage employment. Due to lack of proper guidance and financial assistance the graduates were unable to get self-employment.

- Out of 170 graduates who wanted to pursue further studies, 102 graduates (60 percent) had got admissions.
- Nearly 50 percent of graduates of vocational stream who had studied other courses, had studied B.A. and B.Com. courses.

- The graduates who had studied other courses had decided to do so because of various reasons such as non-availability of jobs after completion of +2 (51 percent), for better prospects (37 percent) and as desired by their parents (7 percent).

15. Attitude towards Vocational Courses

- It was found that the mean attitude score of the entire sample of students was 128.

- Nearly 25 percent of the students exhibited high positive attitude and 74 percent had positive attitude towards vocational courses.

- There existed significant negative but very low correlation (r = -0.14) between attitude towards vocational courses and family economic status.

- Significant positive but very low correlation (r = 0.064) was found between attitude towards vocational courses and parents' educational qualifications.

- No significant correlation (r = 0.01) was found between attitude towards vocational courses and academic achievement of students.

- No significant difference (P > 0.05) was found in attitude towards vocational courses between boys and girls and between the students from rural and urban areas.

- The mean attitude score of the students studying Floriculture was found significantly lower than the students of other 14 courses.
16. Profile of the Vocational Stream Students

- About 48 percent of the students in the vocational stream were girls and 52 percent were boys.

- Thirty-five percent of the vocational stream students were from nuclear families, 52 percent were from families have 5-6 members and the remaining 13 percent were from large families.

- Twenty-nine percent of the students studying in the vocational stream were from urban areas and the remaining were from rural areas.

- With regard to the caste of the students it was found that 46 percent were general (upper) caste, 42 percent were OBCs and about 12 percent were SCs & STs.

- About 50 percent of the students studying in the vocational stream had obtained third division, nearly 46 percent second division and only four percent first division at the Std. X Board Examination.

- About one-third of the parents of the students were illiterate, nearly one-half were educated upto Std. X and only about six percent of the parents were Bachelor’s degree holders.

- Nearly 30 percent of the parents (father) were engaged in agriculture and related occupations, about 21 percent were in business, nearly 36 percent were employed in private sectors and only 13 percent were in government jobs.

- The monthly income of the parents of 29 percent of the students was less than Rs. 3,000, nearly 30 percent had income between Rs. 3,000 – Rs. 5,000, 25 percent had income between Rs. 5,000 – Rs. 8,000 and only 17 percent had income above Rs. 8000.
5.2 CONCLUSION

Based on the findings of the study the following conclusions were drawn:

1. Proper management system for the Centrally Sponsored Scheme of Vocational of Education at +2 stage has not yet been created in Goa. As a result most of the important functions of the management system as envisaged for the scheme remained only on paper.

2. Both the Central Government as well as the State Government provide the necessary grants required for the vocational stream. However, the raw material annual grants provided to the school are insufficient for most of the courses.

3. The state of Goa has not yet attained the enrolment target in the vocational stream set by the revised NPE-1992 inspite of substantial increase in enrolment over the last 15 years.

4. The increase in enrolment in the vocational stream over the years is more in the case of girls than boys.

5. All the full time teachers possess the prescribed essential qualifications but none of them possess the desirable qualifications and experience.
   - Most of the part-time teachers do not possess the prescribed essential qualifications and experiences.

6. The in-service education programmes conducted so far for the teachers of the vocational stream of Goa are inadequate in most of the courses. No general orientation programmes and subject specific refresher courses have been conducted so far.
7. Almost all schools have the required number of teachers. However, a substantial number of schools do not have the required number of administrative and support staff for the vocational stream.

8. Most of the schools have the required classrooms, teachers common room and store room/cupboards.

9. A substantial number of schools are not adequately equipped as far as the teaching learning aids/equipment is concerned to teach theory and conduct practicum effectively in vocational courses such as Office Secretaryship and Stenography, Computer Technique, Insurance, Electronic Technology, Automobile Engineering Technology, Maintenance and Repairs of Electrical and Electronic Domestic Appliances, Catering and Restaurant Management and Horticulture.

- Almost all the schools offering vocational course such as Accounting and Auditing, Bakery and Confectionary, Commercial Garment Designing and Making, Floriculture, Industrial Management, Salesmanship and Marketing and Travel and Tourism Technique are adequately equipped to organize the teaching learning programmes effectively in these courses.

- A substantial number of schools offering the courses like Electronic Technology, Automobile Engineering Technology, Maintenance and Repair of Electrical and Electronic Domestic Appliance, Commercial Garment Designing and Making and Horticulture do not have the required number/size of workshop/work shed/plots.

- The schools offering vocational courses such as Bakery and Confectionary, Catering and Restaurant Management, Automobile Engineering Technology and Commercial Garment Designing and Making face
difficulty in procuring the required raw materials due to inadequate raw material grants.

10. - The internal evaluation system followed by the vocational schools lacks flexibility. It is neither continuous or comprehensive.

- No Weightage is given to the performance of students in internal assessment for certification at Std. XII Board examination.

- No uniform scheme of assessment is followed for all the components of the vocational courses. The use of Grading for school assessment subjects and OJT and marking scheme for other components is unjustified.

11. None of the schools conduct the on-the-job training programmes properly.

12. There exist no adequate facilities for apprenticeship training for the students completing +2 vocational courses in Goa.

13. According to the Principals and teachers of the vocational stream, the vocational courses offered at +2 stage in Goa are useful for getting employment.

- Majority of the graduates of the vocational stream fail to get employment. The graduates who get jobs are mostly employed in private sectors.

- The courses having better prospects in terms of self-employment in Goa include Bakery and Confectionary, Catering and Restaurant Management, Horticulture, Floriculture, Computer Technique, Electronic Technology, Commercial Garment Designing and Making and Marketing and Salesmanship.

- The courses such as Office Secretaryship and Stenography and Accountancy and Auditing which are offered in highest number of schools
are least relevant from employment point of view in general and for self employment in particular.

14. Most of the graduates of the vocational stream do not get jobs even after three years of completion of the courses.
- The graduates take up low paid jobs due to non availability of jobs in the government sectors and financial problems.
- Graduates of the vocational stream face difficulty in taking decision regarding employment and further studies due to lack of guidance and placement services.
- Due to financial problems and lack of knowledge about the schemes offered by financial institutions in the absence of proper guidance, graduates of the vocational stream do not go for self-employment though they are interested to do so.
- The graduates of the vocational stream do not face much difficulty in pursuing further studies in the Arts and Commerce Stream at the +3 stage.

15. The students studying in the vocational stream possess positive attitude towards the vocational courses.
- There exist significant negative but low correlation between family economic status and attitude towards vocational courses of students.
- There exist significant positive but very low correlation between educational qualifications of parents and is the attitude of students towards vocational courses.
- There is no correlation between academic achievement of students and their attitude towards vocational courses.
Boys and girls and the students belonging to rural and urban areas possess the same level of attitude towards vocational courses.

Students studying the vocational course Floriculture possess lower attitude than the students of other vocational courses.

16. Mostly the students who score low percentage of marks at the Std. X Board examination, who are from low income families, belonging to rural areas, whose parents are either illiterate or educated upto secondary stage and employed in agriculture and related occupations and private sectors study in the vocational stream.

5.3 Recommendations

Keeping in mind the findings of the present study, the following action points have been suggested for implementation by the concerned authorities.

5.3.1 Actions Need to be Taken by the Government of Goa

1. The Government should take steps to set up a State Council of Vocational Education (SCVE) at the possible earliest to function as the overall policy formulating and coordinating body for vocational education and training at the state level.

2. The Government should upgrade the present State Institute of Education into State Council of Education Research and Training (SCERT) and create a vocational wing in the SCERT to provide research and development support to the programme of vocationalisation at the state level.
3. The Government should take immediate steps to set up two district Vocational Education Committees (DVECs), one in each district to discharge the specific functions as envisaged in the scheme of vocationalisation of education at the +2 stage.

4. The vocational wing in the Directorate of Education should not be given other responsibilities. The vocational wing should discharge only the functions relating to the Vocational Courses in the state.

5. The Government should increase the annual raw material grants as per the requirements of the school.

6. The Government (Directorate of Education) should release the grants on time to all the schools.

7. Remuneration/salary to the part-time teachers should be increased substantially to attract experienced persons/persons from industries to enhance the quality of teaching learning experiences provided to the students.

8. Since already a large number of schools are offering the vocational courses such as Office Secretaryship and Stenography and Accountancy and Auditing and these courses are not much in demand particularly not suitable for self employment, the Government should stop further quantitative expansion. The government should stand by its recent decision to wind up the courses in some of the schools taking into consideration the geographical distribution and by protecting the interest of the teachers teaching these courses.

9. The Government should encourage more and more schools for the introduction of courses like Electronic Technology, Bakery and
Confectionary, Floriculture, Horticulture and Catering and Restaurant Management considering the potential of these courses for self employment.

10. The courses like Industrial Management, Marketing and Salesmanship and Health Care Assistant which have been introduced only in one school each so far need to be extended to few other schools.

11. The Government should take steps for the introduction of new courses like Food Preservation and Processing, Pre-School and Creche Management, Poultry Production, Seed Production Technology, Fisheries, Fish Processing Technology, Printing and Book Binding Technology and medical Laboratory Technicians.

12. The Government should take steps to provide financial assistance to the graduates of vocational stream who prefer self-employment. The details about such scheme of financial assistance should be sent to the schools for information of students.

13. The Government should provide grants to the Goa Board of Secondary and Higher Secondary Education to organize in-service education programme for teachers of the vocational stream.

5.3.2 Actions Need to be Taken by the Goa Board of Secondary and Higher Secondary Education (GBSHSE)

1. Since at present the GBSHSE organizes in-service teacher education programme in the absence of SCERT-Vocational wing, the Board should take the following steps with regard to in-service teacher education programme:
- It should conduct general orientation programme for the newly recruited teachers and course specific refresher courses from time to time.

- In-service programmes like workshops, seminars, symposiums should be conducted in regular intervals in all courses in general and in courses like Catering and Restaurant Management, Floriculture, Horticulture, Travel and Tourism Technique, Commercial Garment Designing and Making and Bakery and Confectionary in particular.

- The Board should ensure that both full time and part time teachers take part in in-service programmes.

- The Board should keep in regular touch with PSSCIVE, Bhopal to collect information regarding in-service programmes conducted in Bhopal and disseminate such information to the principals of the schools in Goa for necessary action.

2. - The Board should make suitable changes in the scheme of internal assessment to be followed by the schools. It should be made continuous and comprehensive to cover all aspects of students academic growth.

- Either marking or grading scheme should be followed in assessing the performance of students in all the components of the vocational courses. The present dual system of award of grades in the school assessment subjects and on-the-job training and awarding of marks in the other components of the vocational courses must be stopped.

3. The final certification should be based on the performance of students both at the internal assessment and the external examination instead of only on the basis of
performance at the external examination conducted by the Board. Some Weightage need to be assigned to internal assessment during Std. XII in the final certification.

4. The duration of OJT to be followed by the schools should be increased to at least 8 weeks for all the courses.

5.3.3 Actions Need to be taken by the School Authorities

1. The Principals should facilitate the participation of teachers in various in-service teacher education programmes conducted by GBSHSE and PSSCIVE, Bhopal.

2. At the school level, workshops should be conducted on preparation of teaching aids. For this purpose the schools offering the same courses should come together.

3. On-the-Job Training programmes must be organized by the schools properly as envisaged in the CSS.

4. The Schools should ensure that a separate certificate is issued jointly by the institutions and the OJT workstations to the students mentioning all possible details regarding the participation and performance of students in the OJT programme.

5. The school should collect feedback about the programme from the workstations and from the students periodically for the improvement of OJT programme.
6. The duration of OJT programme for all courses should be increased to at least 8 weeks.

7. The school must prepare student profile and profile of workstation and allot the right job to the right person (student).

8. The school should maintain cordial relation with the workstations. The principals and the teachers should visit the work stations periodically and discuss the matters relating to mutual cooperation.

9. The school should request the workstations not to allot other work to the students than what they are supposed to do during OJT.

10. Management of vocational education at the school level needs to be revamped. The school should build up contact with the community. Guidance and placement services should be provided to the students graduating from the schools for getting suitable employment. The schools should keep in touch with the students graduating from the schools.

5.3.4 Actions Need to be Taken By Workstations/Organisations

1. The authorities of the workstations should cooperate with the school and students for OJT programme since ultimately it is they who are going to be benefited in the long run.

2. The inplant supervisors should take keen interest to supervise, to provide feedback and to assess the performance of the trainees during OJT.

3. The authorities in the workstation should not allot any other work to the trainees than the jobs they are supposed to perform during OJT.
5.4 Suggestions for Further Research

1. The causes behind non-achievement of the set target of 25 percent of the total enrolment at the +2 stage in the vocational stream may be investigated.

2. A vocational survey may be conducted to find out what other new vocational courses would be introduced in Goa.