

# INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

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- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

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## THE STUDY OF PROBLEMS FACED BY COMMERCE STREAM STUDENTS OPTING FOR COMPUTER EDUCATION

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### ABSTRACT

*The purpose of this study was to investigate the problems faced by the commerce students who have opted for computer education at Higher Secondary stage in the schools affiliated to Gujarat Secondary and Higher Secondary Education Board of Vadodara city. The research design adopted for the study was survey. Data collection ended using validated tools like Rating Scale based on the criteria's for text book analysis given by NCERT and separate questionnaire (comprising open ended and close ended questions) were used for both for the students and the teachers. The analysis and interpretation of data was through critically analyses. Findings indicate that the overall quality of the curriculum and text book of the computer education in commerce stream needs change to keep pace with the changing situations of the commercial world leading to many problems are faced by the students and teachers dealing with the present curriculum and syllabus.*

### KEYWORDS

Commerce Education, Computer Education, Commerce Text Book, Content Analysis.

### INTRODUCTION

Today's world is regarded as 'the world of technology and innovations'. Since the first commercial computer appeared in 1951, man's capacity to handle information had indeed undergone a revolutionary change (Argila, 1977). This makes it essential to acquaint the students with what is presently demanded by the commerce sector through commerce education. Knowledge of commerce is given to the students at higher secondary schools in commerce stream and this knowledge imparted acts as roots to be strong to grow for young youths of commerce. Many schools with higher secondary section having commerce stream impart computer education looking to its importance in future, but it is must to keep check of the extent to which the facilities are available and various problems that creep up while computer education is rendered to students.

### COMMERCE AND COMPUTERS

Talk about any area of commerce, be it trade, aids to trade viz. banking, insurance, warehousing, transportation etc., manufacturing industries, computers have pervaded everywhere in commerce. E.g. Banks have introduced computers for financial data exchange transactions over the Internet. Electronic commerce has replaced traditional ways of ordering goods and services. The nature, scope and functioning of commerce has changed from commerce to e-Commerce and from business to e-Business. With each new technology, electronic commerce also enables new possibilities, unfeasible before, especially through its interactive nature. E-Commerce in investopedia (1996) is defined as "the buying and selling of information, products, and services via computer networks" e-commerce also includes the "support for any kind of business transactions over a digital infrastructure".

Internet-based electronic commerce is used in all the phases of a commerce transaction: to provide information to its customers (e.g., access to product brochures and price lists), as a marketing tool (e.g., allowing a customer to contact a sales office), as a sales channel (e.g., on-line ordering products) and as a support line (e.g., making available frequently asked questions and answers). Using electronic commerce has assisted an organization to derive value for business. E-Commerce has helped organizations to make money from direct sales. Due to its advantages to the field of commerce usage of electronic commerce in different industries, business units for trade and other services have accelerated at a great speed in India too. Electronic commerce has its great impact on the growth and development of the society and economy.

India is a Developing Nation and to continue its development further, it is must to keep a pace with scientific and technological development that is taking place around the world. Chandra (1984) rightly pointed out in National Workshop On Computer Literacy Curriculum-NCERT that "Anybody who grows up in the world tomorrow, not knowing the computers, not understanding the computers, not being able to use them, will be lost, and that Country which does not prepare its citizens to be fully familiar and conversant with computers, their technologies and their applications would not be able to keep its place with the industrial hierarchy in the community of Nations."

The idea of introducing computer education in schools in India is essential to cater to the present as well as future needs of the society wherein it is felt that computers are here to stay and will play an increasingly important role in social life. Hence, it is not only appropriate but essential that today's student is oriented to adjust in the world largely dominated by computers.

Higher secondary section with commerce stream is the inception stage to gain the knowledge of commerce for commerce students and computer education can play very important role in this initial stage of commerce education as it is hard to see "commerce without computers" where e-commerce is the part of today's grooming, growing technological world.

### RECOMMENDATIONS OF VARIOUS COMMISSION AND COMMITTEES ON COMPUTER EDUCATION

The report of the **National Workshop on Computer Literacy Curriculum- NCERT (1984)** gave the following recommendations to manifest the importance of computer education.

- Computer education should be introduced at the senior secondary level and may gradually be introduced at middle and primary levels.
- Computer education programme should be the part of the curriculum for every student, irrespective of the area selected for the specialization.
- Computer literacy programme should familiarize the students with the computer as a versatile tool with the immense application potentials in all the aspects of human development.

Planning commission has also given emphasis on the expansion of the computer education:

The **7<sup>th</sup> five-year plan (1985-90)** emphasized on the re-orientation of the education system so as to prepare the country to meet challenges of the 21<sup>st</sup> century.

The **10<sup>th</sup> five-year plan (2002-07)** recommended strategically for the development of computer and computer education in the terms of the strategies for hardware, software, marketing and human resource development.

**Biswal, A. & Das, A. (2000)** reported level wise objectives for computer education as:

- to develop vocational skills in computer for further life.
- to develop creativity in the area of computer.
- to develop a stronger foundation for further studies in computer.

Taking note of above recommendations Gujarat Secondary and Higher Secondary Education Board (GS&HSEB) has introduced subject of computer education as an optional subject to be introduced in both science and commerce stream. It has not made Computer Education compulsory as it is not feasible for all the schools to have computers and also GS&HSEB may not be in a position to finance such schools. It has instead, recognized Computer Education as an option for SUPW (Socially Useful & Productive Work).

## OBJECTIVES OF COMPUTER EDUCATION AS PRESCRIBED BY GUJARAT STATE BOARD OF SCHOOL TEXTBOOK (GSBSTB) IN THE SYLLABUS

1. To introduce students to modern usage of computers including career other than computing.
2. To ensure that the students can use the course as a jumping off point to go to more advanced courses in computing.
3. To encourage logical thinking in students.
4. To ensure that the student who do not have the exposure to computers does not find it difficult to grasp the course.
5. To ensure that the students who already have some exposure to computing do not find it too boring or easy.
6. To teach students storage, maintenance and presentation of information. To encourage the computer as a tool in learning process.
7. To introduce students to the most general aspects of one of the widespread application of the Internet namely e-commerce.

It is a must to keep eye on whether the computer education provided to the students is in track with these objectives and what are the hurdles in the way that needs to be removed for qualitative delegation of computer education.

As it is hard to see "*Commerce without Computers*" in today's changing, growing technological world and as the investigator has not come across to any study talking about computer education in commerce stream for recent past years focusing on the problems of the students, the investigator is more interested to know the present conditions and situations prevailing in schools of Baroda city commerce stream with regards to computer education and problems faced by students in computer education as students are the "makers of the Nation." Foreseeing its importance in every aspect of life, many schools have offered computer education to the students but there is nothing that substantiates the extent to which the facilities are available and various problems that creep up while computer education is rendered to students of higher secondary commerce stream by various schools.

The investigator to bring the qualitative change in the computer education & belonging to the field of commerce is more inclined to study the problems faced by the Commerce students in computer education.

## RATIONALE OF THE STUDY

Change is the need for the day. The rapid pace at which technology is transforming the process of learning in many countries is almost unbelievable. The imperceptible momentum gathered by the engines of technology while at work in education will change the entire learning scenario like nothing else during the next few years. What is really amazing is that the developments are being telescoped into shorter and shorter time spans and this is the crux of the matter. As a result, the learning tools at the command of the children are getting more effective and sophisticated. At the root of this revolution is the personal computer, the television set, video cassettes, the satellite network and what not. And there is no stopping to this avalanche of change as the world approaches the 21st century.

Also the National Growth, which has taken place in the country, is largely the contribution of goods and services produced and sold in the country, which gives an idea that activities of commerce have accelerated at a greater speed due to technological advancement. Computer is increasingly used in all the aspects of social life in the country. Banking, Railway and Airlines have already introduced computers in their day-to-day operational services. Mainly corporations, hospitals, government agencies and educational institutions use computers. Besides, Computers have also been introduced in large and small business organization for maintenance of the company records and accounts. The use of computers and Internet has increased to such a great extent that commerce has now become e-commerce. We can say that when the power of e-commerce was unleashed for the benefit of the society, the evolution of the business world started. Now Businesses use electronic data interchange (EDI) to reduce costs, increase the speed, and increase the accuracy of business documents when doing business with other companies. Consumers are no longer tied to local stores or mail catalogues for retail purchases. E-commerce became a new retail outlet in the late 1990s. When even retail purchase and sale in the field of commerce is done with the help of computers and internet, it becomes essential to train the students to have know-how of computers. "The pressure for colleges to reform and faculty to change the method of instruction have intensified during the last decade. Until teachers use the computer and become comfortable and confident using the computer, the computer may remain an isolated tool with either the potential to increase student learning, or the potential to increase the amount of dust it collects" (Deborah, 2000). Also "Our commerce teachers cannot keep away from these changes." (TOJET, 2000). For a developing Nation like India, as said earlier, it is very essential to keep pace with scientific and technological development and education as an agent of socialization does play a major role in keeping young aspirants of society aware and up to date with these developments. The idea of introducing computer education in schools in India is based on the future needs wherein it is felt that computers are here to stay and will play an increasingly important role in social life. Hence, it is only appropriate that today student to be so oriented as to adjust in the world largely dominated by computers.

Gupta, S. (1999) stated, "Adopting a new technology is a great challenge. There are few constraints in the field of computer education. Major problems in the computer education are related to the resource allocation, training of the teachers, attitude of decision makers, stiff competition, indifferent attitude of government, shortage of teaching staff, etc." Also Goel, Das and Joshi (2000) remarked, "Computer education itself has not been standardized with respect to infrastructure, syllabus and qualification of manpower." So, it is quite necessary to carry out the survey of the problems faced by the commerce students in computer education, which may enable the investigator to answer many of the questions raised.

"Computer education has been introduced in the schools in India and with it is expected that the schools will become the machines of commerce education. However, at present Commerce Education in schools has not become so advanced that computers are used at school stage in the book-keeping or accountancy." (Rao, 2004). In most of the advanced countries the commerce education is totally computerized. (Rao, 2004). The computer education in the commerce stream is not the complete position to develop different skills in the student of commerce. Today in all the areas, work in majority is dependent on computers whereas in schools commerce education is not totally computerized. Student faces difficulties in doing the transaction when placed in the real commercial market at that stage.

The investigator belonging to the field of commerce is more inclined/interested in knowing the problems faced by the students in availing computer education in commerce stream so that the investigator can come up with some effective solutions to the problems to enhance the qualitative aspect of computer education in Commerce Stream.

## RESEARCH QUESTIONS

1. What is the computer education course offered at higher secondary level of commerce stream for standard XI, prescribed by GSBSTB?
2. Is the course offered caters to the needs of the commercial world demand?
3. What are the problems faced by the students of commerce stream at higher secondary level in availing Computer Education?

## STATEMENT OF THE PROBLEM

STUDY OF THE PROBLEMS FACED BY COMMERCE STREAM STUDENTS AT HIGHER SECONDARY LEVEL OPTING FOR COMPUTER EDUCATION



**OBJECTIVES OF THE STUDY**

1. To analyze computer education course offered at higher secondary level of commerce stream for standard "XI, prescribed by GSBSTB.
2. To study the problems of Higher Secondary students of Commerce Stream opting computer education.

**OPERATIONALIZATION OF THE TERM**

**Computer Education:** Computer education here means the knowledge and the skills imparted to the students at the Higher Secondary Commerce Stream in the schools affiliated to GS&HSEB as per the prescribed syllabus for the computer subject taught in these schools.

**Problems:** Difficulty faced by the students in terms of the infrastructure facilities, physical facilities provided by the school management, teachers and teaching, curriculum, etc.

**RESEARCH METHODOLOGY****DELIMITATION OF THE STUDY**

The proposed study is delimited to the English Medium Schools affiliated to Gujarat Board of Baroda City, Gujarat, India.

The proposed study is delimited to schools with Commerce Stream having Computer Education subject (optional / compulsory).

The proposed study is delimited to standard XI of Commerce Stream.

**RESEARCH DESIGN**

The design of the study was the **survey study** (why it was most suitable for the study) the purpose of which was to reveal the problems faced by the students in computer education of the commerce stream higher secondary level which furnished the evidence for future planning and decision making to bring solution for betterment in its present state with future perspective.

**POPULATION OF THE STUDY**

The population of the study consisted of all the twenty two English Medium Higher Secondary Commerce Stream Schools of Baroda city Affiliated under GS&HSEB providing Computer education as an optional / compulsory subject.

**SAMPLE OF THE STUDY**

Five schools from the population were selected for the sample by random sampling method that is approximately twenty two percent of the total population. All the students of class XI commerce opted for computer education from each selected school were selected as the sample and two teachers teaching computer education in those schools constituted as samples.

**TOOLS FOR DATA COLLECTION**

In the present study, to collect the required data the following tools were used.

**RATING SCALE BASED ON THE CRITERIA'S FOR TEXT BOOK ANALYSIS GIVEN BY NCERT**

For objective 1: Various Criteria's were rated by the investigator at five point rating scale and the dividing the on the basis of equal hypothesis was divided into three category of below average, average and above average.

**QUESTIONNAIRE FOR THE STUDENTS**

For objective 2: A separate questionnaire (comprising open ended and close ended questions) for the students of commerce stream opted for computer education was prepared by the investigator, validated by 2 experts. The investigator personally with the help of the questionnaire collected the data from the students.

**QUESTIONNAIRE FOR THE TEACHERS**

For objective 2: A separate questionnaire (comprising open ended and close ended questions) for the Teachers teaching computer education in commerce stream was prepared by the investigator, validated by 2 experts. The investigator personally with the help of the questionnaire collected the data from the students.

**DATA COLLECTION**

Data was collected by the investigator through the personal visit to the sampled schools. The investigator personally approached the principal of school along with a written application duly endorsed by University authority and explaining the purpose of the study. After that the investigator administered the tool and collected the data.

At the time of administration of the tool, the investigator at the outset had oriented the students about the purpose of the study and procedure for answering it. After delivery of necessary instruction, the questionnaire was given to them individually. The students were asked to answer the questions in the space provided along with each item in the questionnaire. The investigator has taken care of the relevancy of the data to the possible extent not allowing the teacher to have an influence on the student's responses.

The investigator also oriented the teachers about the purpose of the study and procedure for answering it. After delivery of necessary instruction, the questionnaire was given to them individually. The investigator collected the data by personally providing the explanation of the various questions and reframing the questions and tried to get the possible relevant data from the teachers.

**ANALYSIS AND INTERPRETATION OF DATA**

**Objective1:** Analysis was done using the evaluation criteria's for Text Book analysis given by NCERT. Various Criteria's were rated by the investigator at five point rating scale and the dividing them on the basis of equal hypothesis was divided into three category of below average, average and above average.

**CRITERIA FOR ANALYSIS**

The curriculum of the computer education text book of standard XI commerce was studied by the investigator herself. The section focuses on the overall view of the content studied keeping in mind the various criteria:

- 1) Selection of the Topic and content, its relevance to the commercial market situation.
- 2) Sequencing and logical continuity of the content points and sub points.
- 3) Presentation of the content.
- 4) Figures, tables, diagrams, graphs and pictures.
- 5) Illustrations, Exercise.
- 6) Miscellaneous.
- 7) Technical Specification (Physical Features)

Evaluation of a text book was done systematically keeping in mind the following factors.

- 1) Content covered under each selected topic.
- 2) Validity of the content covered in relation the present demands of the commercial market.
- 3) Logical continuity of the content points and sub points.
- 4) Language and ambiguity of the content.
- 5) Presentation of the content points and the sub points.
- 6) Graphs, diagrams, figures, charts and pictures used for the explanation of the content.
- 7) Illustrations and examples used.
- 8) Presentation and the typographical mistakes.
- 9) Different levels and types of question in the exercise.

- 10) Type of assignment, activities, experiments.
- 11) References provided
- 12) Any other factor not covered above.

The investigator critically examined each and every page of the text book of computer education for commerce stream standard XI keeping in mind the Criteria's and noting them down in the evaluation sheet.

#### CRITERIA FOR FINAL ANALYSIS BASED ON THE RATING SCALE

Final Analysis Based Score = Total Score obtained / Score assigned. Total Score assigned = 200

On the basis of the Score assigned and Total Score obtained the investigator keeping in mind the demand of today's commercial market from the education predicted that the content is above average, average or below average on the basis of Equal Hypothesis

#### ANALYSIS BASED ON THE RATING SCALE

From the above analysis the investigator came to the conclusion about various aspects of the "Introduction to Computers" Text book of computer education of XI Commerce. On the basis of Equal Hypothesis the investigator has divided the five points scale into three categories – up to 1.67 below average, from 1.68 to 3.34 average and above 3.35 above average.

Selection of the Topic and content, its relevance to the commercial market situation which includes 6 sub criteria's like Correlation of the selected topic with the set Objectives of Std. XI Commerce Computer Textbook, Relevancy of the Selected Topics to the commercial market, Relevancy of the Content in the Selected Topics to the commercial market, Correlation between the selected topic, Tradition v/s Modern, Imaginary v/s life related and Interdisciplinary in Nature got final score **2.5** that indicates the Selection of the Topic and content, its relevance to the commercial market situation is at the average level. Thus needs to include certain topics which have more relevancies to the commercial market situation Ex. certain topics based on TALLY 9.2. Topics needs to changed keeping in mind the changing demands and the present context.

Sequencing and logical continuity of the content points and sub points which includes 6 sub criteria's like Organization of Content, Logical Continuity of the points and the sub points, relation between the content points and sub points, Fundamental Unity (Central idea reflected in the Chapter), Objectives according to the level / domain and Summarization got final score **3.17** that indicates the Sequencing and logical continuity of the content points and sub points is at the average level teaching points needs more proper sequencing and the content points and sub points logically connectivity needs to be more focused. Objectives should be more based on the different level and domain of the student.

Presentation of the content which includes 5 sub criteria's like Concreteness ( Fairness / biasness), Flow of content using principles of Known to Unknown, Simple to Complex, Presentation in the simple and legible form, Presentation High lighting the important points and with clarity and Up-to-date got final score **3.2** that indicates the presentation of the content is at the average level.

Figures, tables, graphs diagrams, and pictures is one of the aspect of the presentation of the content which includes 4 sub criteria's like Relevancy of the figures, tables, graphs diagrams, and pictures to the content, Proper Labeling of the figures, tables, graphs diagrams, and pictures, Presentation of the figures, tables, graphs diagrams, and pictures its colour, size and Clarity in Presentation got final score **3.25** that indicates the presentation of the figures, graphs, charts, diagrams and pictures are at the average level. The presentation needs to be in more pictorial form, more colourful and attractive and the size of the pictures and the charts needs to be increased as is less legible. It should be such which develops more interest amongst the students to learn.

Illustrations and Exercise including 6 sub criteria's like quality, theoretical or practical approach, relativity with the content, catering to the different level of students, questions of different level, different domain, language and its usefulness got final score **3** that indicates that the illustrations and the examples are at the average level and not fully catering to the needs of the different level of the students, content and the present market scenario. There is a need to incorporate the questions of different level and different types.

Miscellaneous including 7 sub criteria's like Units / Topics Introduction, Unit Objectives Clarification, Key words and its meaning clarification, Instructions for the related Practical assignments and projects, Instructions for the Teacher, References and bibliography for the further use of students and General information got final score **2** that indicates that the miscellaneous section of the text book is below average. Each chapter should have proper introduction, meaning to the key words, instructions for the teachers and the students and should also provide with the proper references which can suffice the need of guidance to the students in doing their practical and the project based assignment. All these are the essential elements for the good text book.

Technical Specification (Physical Features) including 6 sub criteria's like Size of the book, cover page, quality of paper, quality of printing, binding and the price of the book got final score **2.67** that indicates that the technical specification as one of the important aspect of the good book are at the average level. Minor Printing mistakes, spelling mistakes needs to be taken care. Binding should be hard and paper quality should be raised as need to be long lasting. No use of colours is been done which makes the presentation dull and unattractive to the students. There should to coloured prints for the charts, graphs, diagrams and picture presentation.

Considering all the above criteria's the overall quality of the Text book of XI commerce lies at the average level (i.e. **2.78**). All the aspects of the text book needs change especially taking into consideration the commerce stream the selection of the topics and the content should be such that enables the students to keep pace with the changing situations of the commercial market. More practical approach is needed Ex. In chapter Electronic commerce exercise focuses only on the theoretical aspects and that to the knowledge level only no applicability is focused. Similarly Internet only theory no practical exercise so students are not in the position to use net when asked too.

Thus there is a need to make the text book of computer education for XI commerce good, above average of the selected topics, content covered, presentation, type and the level of the examples and the illustrations, printing, quality of the physical aspects of the text book, errors and the mistakes, etc. It should cater to the needs of the changing commercial market.

**Objective 2: To study the problems of Higher Secondary students of Commerce Stream opting computer education. A separate questionnaire (comprising open ended and close ended questions) for the students and the teachers respectively was prepared by the investigator, validated by 2 experts.**

The samples for the objective consisted of the five schools from the population have been selected by simple random sampling method. All the students of class XI commerce opted for computer education from each selected school was selected as the sample, and two teachers teaching computer education in those schools constituted as sample.

The investigator personally visited the English medium schools having commerce stream and providing computer education as an optional / compulsory subject and collected the data form the students and the teachers with the help of the questionnaire.

#### ANALYSIS ON THE BASIS OF THE TEACHER'S RESPONSES IN RELATION TO THE FACILITIES AND THE TEACHING LEARNING PROCESS

##### 1. BACKGROUND AND THE QUALIFICATION OF THE TEACHERS

As the investigator has divided the questionnaire in relation to the different aspects one of the major aspect of concern was related to the Teachers qualification and their background.

All the teachers were found to be holding degrees or qualification related to computers like:

- 1) Diploma in Computer Application (DCA)
- 2) Post Graduate Diploma in Computer Application (PGDCA)
- 3) DOE "A" level
- 4) Master in Computer Software and Engineering
- 5) Advance Diploma in Software and Engineering
- 6) Hardware, Networking Professional Certificate Course in Tally, Web Page Designing, DTP

It was also found that out of the sample **86 percent** of the teachers of commerce stream teachers were from science background as the schools have appointed only one teacher for teaching in both the streams. From the above graph based on the student's response it is seen that out of the total sample of students **61.33 percent** responded that the teacher is from science background.

**2. IN-SERVICE TRAINING**

**66.85 percent** responded that there was no in-service training provided to them and remaining **33.15 percent** to whom the training was provided responded that the training period was about 1 to 2 weeks.

**3. INSTRUCTIONAL PROCESS**

It was found by the investigator from the responses for the teacher and the students that majority of the teachers adopted lecture method, sometime the demonstration for teaching practical. No other teaching aid was been utilized by the teachers in teaching Computer Education. Even teachers responded they are not allowed to use the internet for teaching the chapter of internet and E-commerce.

**4. EVALUATION STRATEGY**

From the responses it was found that the schools have their own criteria's for evaluating students. The student's performance is evaluated on the basis of the oral, practical and written. On an average it was found that **72.69 percent** schools are giving 20 percent weightage to Oral, 40 percent weightage to practical and 40 percent to written. Also very few teachers give the assignments which are project based having problem solving approach to evaluate the students learning.

**5. TIME ALLOTMENT FOR THE THEORY AND PRACTICAL**

Time allotted for the theory and the practical differs from school, to school but on an average majority of the teachers were satisfied and felt the period allotted were adequate. On an average two periods in a week were given to the students for the practice.

**6. DIFFERENCES FOUND IN THE BASIC PRINCIPLES OF COMMERCE WHILE TEACHING CONCEPTS OF COMMERCE IN COMPUTER EDUCATION**

It was found that the **100 percent** sample of the teachers responded **yes** to the question related to the difference found between the basic principles of Commerce in the commerce books and the principles of commerce education which creates lots of confusion in the minds of the teachers and the students. Also as stated above it was found that out of the sample **86 percent** of the teachers of commerce stream were from science background as the schools have appointed only one teacher for teaching in both the streams, due to these the teachers were not totally in the position to clear the concepts of the basic principles of commerce of the students of the commerce stream.

**ANALYSIS OF THE PROBLEMS ON THE BASIS OF THE RESPONSES OF THE STUDENTS IN RELATION TO THE FACILITIES PROVIDED AND THE LEVEL OF THE SATISFACTION**

In terms of the infrastructural and other resource facilities provided, which becomes a hindrance in the effectiveness of the teaching learning process 73.48 percent of the students responded that there are no separate labs for the commerce stream and the science stream and also other standards in the schools. On an average 30 to 40 students are handled at a time in the computer lab only by one teacher. Because of this 72.56 percent of the students responded that the teachers are not in the position to pay personal attention on them and so students face difficulty in solving their doubts. Even while during practical the teacher is not in the position to handle each and every student and so many times just ask students to read from the text book and do the practical by self rather than following the demonstration method.

75.69 percent of the students responded that there is the same teacher to teach theory and the practical while remaining 24.31 percent responded that there are two different teachers to teach the theory and the practical. 56.67 percent of the student found the lack of co-ordination between the theory and the practical taught. Even there is no proper co-ordination seen between the commerce subject's teachers and the computer teacher. The subject like Accountancy, statistics are not taught by using computer programs it is only by blackboard method. Students found lot of difference in the basic concepts and the principles of the accountancy and the statistics when taught in the commerce classes and the computer education classes.

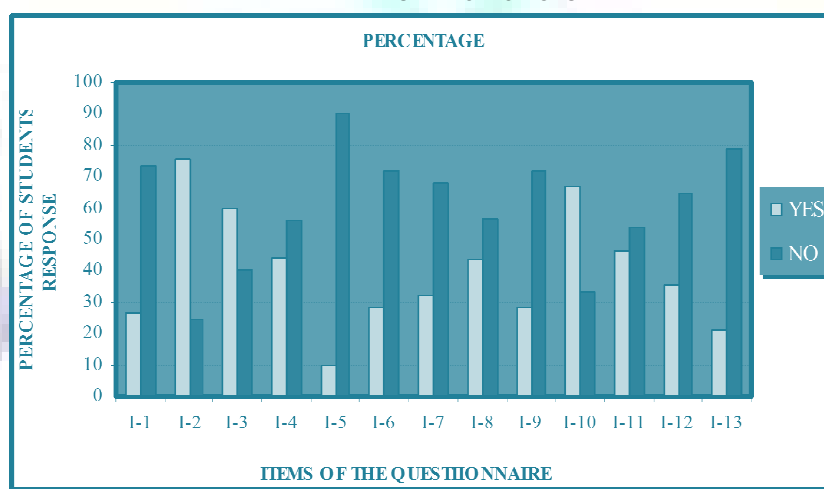
Also in item number 5, 6 and 7, 90.06 percent of the students responded that there is no use of any kind of the teaching aid while teaching the subject of computer education teachers lack in the pedagogical aspects because of which they are not in the position to develop the interest towards the computer education. Even 71.82 percent responded that the teacher make no use of other reference books apart from the text book, due to which students gets less exposure.

67.96 percent of the students responded that there is no availability of the reference books in the school library too so students finds the library to be of less use for getting more information and enhancing their knowledge about the Computer education.

More focus is in teaching the theory, some of the chapters like Internet, E-commerce wherein the computer practical is the must to understand the concepts are taught without any practical exposure. 67.96 percent of the students responded that they are not allowed to use internet even once in a year. 71.82 percent of them responded that they are never taught to develop the web page. They do not have the clear concepts of E-commerce like advertising, online reservations, banking, filing tax returns online, house tax and the education tax on online and collaborative businesses connected to the private networking.

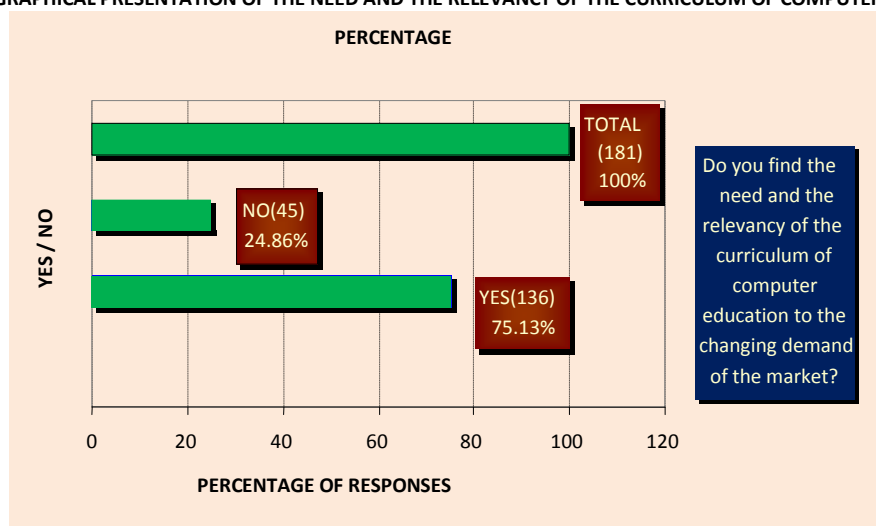
Items (10, 11 and 13) in the table 4.2.2 shows the satisfaction of the students with relation to the presentation of the content in the text book (33.15 percent were not satisfied), satisfaction with the way in which the computer education provided (53.60 percent were not satisfied), and the satisfaction with the rate of consumables provided (79.01 percent were not satisfied) they were not provided with the sufficient CDs, stationery and even the printing facilities. Even students don't know how to use the printer.

**GRAPH 1: GRAPHICAL PRESENTATION OF THE PROBLEMS ON THE BASIS OF THE RESPONSES OF THE STUDENTS IN RELATION TO THE FACILITIES PROVIDED AND THE LEVEL OF THE SATISFACTION**



Analysis of the responses of the students in relation to the relevancy of the curriculum to the changing demands of the commercial market situation showed that 76.24 percent of the students felt that the topics taught to them are related to the commerce but the content covered in the topics is not up to mark and also the way they have been transacted do not suffice the need of commerce at large. 79.56 percent of the students responded that the Computer Education has an important place in the commerce curriculum but needs certain change so as to fulfill the demands of the commercial market situations.

GRAPH 2: GRAPHICAL PRESENTATION OF THE NEED AND THE RELEVANCY OF THE CURRICULUM OF COMPUTER EDUCATION



The graph presented shows the need and the relevancy of the curriculum of computer education to the changing demand of the market. 75.31 percent of the students responded that the computer education in the commerce stream should be such that the student's are in a position to deal with the reality of the commercial market.

## DISCUSSION

Computer Education plays an important role in all the disciplines. It has a special role for the commerce stream students as these students are preparing themselves for the real commercial market and today's world being the world of Computers where all the commerce and trade has found a tremendous development. There is a need to bring a qualitative change in the Computer education in commerce stream.

The investigator found that the overall quality of the text book of the computer education in commerce stream needs change to keep pace with the changing situations of the commercial world. Gohil, H (2004-05) also reported that "the content of the textbook was not appropriate and in logical manner and needs to incorporate latest topics as per the changes in the fields."

It was found that the more focus was on the theory and also the students were evaluated more on the basis of the theory which was also reported by Shah, R. (2002) that "more weightage on the theory than the practical in the evaluation."

There is no use of the teaching aids while imparting the transaction in majority of the school. Majority of the teachers just make the use of the text book for transaction TOJET (2007) studied the attitude of the teachers and reported that "the teacher does not need a computer to complete his tasks. Teachers felt that chalk and talk method is the best method of teaching.

There was no standard criterion and eligibility decided by the GS&HSEB for the selection of the computer teacher for the commerce stream and majority of the teachers teaching in commerce stream were found to be of the science background.

Looking to some of the concerns listed above and more to bring the required change in the quality of Computer Education in Commerce Stream the investigator came across many of findings has given suggestions for the change in the content, for improving the teaching learning process and improving the facilities provided by the schools, attitude of the students, teachers, parents and the society more specific the overall quality of the computer education in commerce stream

## MAJOR FINDINGS OF THE STUDY

1. Majority (approx. 90 percent) of the schools are offering computer education as a subject compulsory in their school curriculum instead of optional subject.
2. There is no specific guideline from GS&HSEB for eligibility of computer teachers for commerce stream. Most of the teachers were found to be from the science background and so they were not in a position to clear the commercial concepts of the students.
3. On an average fees charged by the commerce stream students for computer education is Rs. 750/- But students are not satisfied by the way in which computer education is imparted in the schools. Nor they are satisfied with the facilities provided by the schools in terms of availability of the consumable.
4. Majority of the teachers just make the use of the text book for transaction.
5. Student found lack of co-ordination between the theory and the practical taught.
6. Majority of the schools it was found that there is no availability of the reference books in the school library.
7. On an average one hour in a week is given to the students for practical. Most of the students opined that the practical hours should be more and desired to enjoy more facilities than existed.
8. More focus is in teaching the theory, some of the chapters like Internet, E-commerce wherein the computer practical is the must to understand the concepts of commerce and trade are taught without any practical exposure. Students opined to have a good exposure to internet.
9. Teachers in the majority of the schools are not allowed to use the internet.
10. Need is to make the text book of computer education for XI commerce good, above average in terms of the selected topics, content covered, presentation, type and the level of the examples and the illustrations, printing, quality of the physical aspects of the text book, errors and the mistakes, etc. It should cater to the needs of the changing commercial market.
11. On an average there are 22 to 25 numbers of computers in the schools computer lab where 2 to 3 are found not in the working conditions. On an average 30 to 40 students are handled at a time in the computer lab only by one teacher.

## SUGGESTIONS FOR QUALITATIVE IMPROVEMENT IN THE COMPUTER EDUCATION IN COMMERCE STREAM

1. There should be specific criteria (Eligibility) established by the board for the selection and the appointment of the computer teachers for the commerce stream. The teacher should have the commerce background along with the degrees and qualifications related to computer.
2. Time allotted for the computer education should be adequate. Board should specify the number of periods to be allotted by the schools for practical and the theory.
3. Teachers training should be increased in computer education, methodology of teaching computer in regards with commerce education; instructional programmes should be the area of focus.
4. The computer education text book needs to be changed in terms of the content relevancy with the real commercial world should be there. Illustrations and the examples should be related to commerce.



5. Time allotted for Practical should be increased to develop the skills amongst the students. Students should be taught to develop their own web page and place it on the net. They must be allowed to use internet under certain terms and conditions. The teacher role is to keep a check on the students work.
6. Students should be encouraged to collect the data from the webs which enable him to develop self and the school at large. This will develop the skill in him of recognizing the best product placed on the web from varieties.
7. Proper references related to the computer education more focusing on the commercial aspects should be made available in the school library.
8. Syllabus of the computer education should be designed in such a way that it becomes flexible for modifications according to the speedy change in the demands of the commercial world and the society at large.
9. There should be a separate computer lab established for the commerce stream students.
10. The subject teachers should make the use of the computer while teaching the concepts of accountancy and statistics. There should be an integrated approach established in teaching the different subjects of commerce and the computer education. This will lessen the doubts in the minds arise due to the difference seen in the commerce subject and the computer education.
11. Number of the teacher providing computer education in the commerce stream should be increased so as to keep the personal attention on the students and to be in the position to solve the difficulties of the students. School should appoint at least two teachers having commerce background and provide them with the satisfactory salary. They should be given the position of the subject teacher in the commerce stream.
12. Students should also be given a minor knowledge of the hardware along with the software's.
13. Schools should install the latest software and remove the outdated ones.

### SUGGESTIONS FOR FUTURE RESEARCH

A research investigation can never be exhaustive and final. It raises further problem, queries and issues to be tackled. The present study will encourage, stimulate and even provoke further researches in the area of the problems in the computer education of commerce stream.

1. The study of the problems faced by the students in commerce stream opting for computer education offer and valuable direction and the contribution to the development of the future commercial world of computer.
2. Comparative view of the computer education imparted in commerce stream and science stream.
3. Study of the opportunity cost paid by the students of commerce stream at higher secondary level opting for computer education leaving the subject of Secretarial Practice and Commercial Correspondence.
4. The study on the problems faced by the students due to lack of the infrastructural facilities, due to inadequate library facilities, insufficient availability of the consumable, the selection criteria of the teacher by the school, the evaluation process, the teaching learning process and the teachers.
5. Integration of the different subjects of commerce and the computer education.
6. Study of the expectations of the students, teacher, parents and the commercial world- the society at large.

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