

**IMPACT OF TALP IT@ SCHOOLS IN KARNATAKA TRAINING IN
DEVELOPING TEACHERS EFFICIENCY RELATED TO USE OF ICT SKILLS
IN CLASSROOM PROCESS**

A study by



By

Naveeda Khanum

Lecturer D.I.E.T

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**DISTRICT INSTITUTE OF EDUCATION AND TRAINING
NEAR KARNATAKA SANGHA, BH ROAD SHIVAMOGG**

CERTIFICATE

I, NAVEEDA KHANUM ,certify that this research work entitled ,”IMPACT OF IT@SCHOOLSIN KARNATAKA TO DEVELOPING TEACHERS EFFICIENCY RELATED TO USE OF ICT SKILLS IN CLASSROOM PROCESS”is the result of research work done by me under the supervision of Nanjaiah C principal DIET Shimoga.I am submitting this Under T.E plan.

I further certify that this research work has not been submitted by me before for any purpose.

Foreword

I am happy to write a foreword to the present study. We are in an era in which we have ubiquitous electronic interactivity and have tremendous range of educational resources available. The demands of information era can't be satisfied with classroom instruction as the only source of learning, the styles of teaching and learning should go far beyond traditional pedagogic efforts within the four walls of classroom and in this context ICT has paved the way for accelerating the paradigm shift by providing more flexible ways of learning. Therefore TalpIt@schools in Karnataka training programme is launched to strengthen teachers in ICT skills and to integrate it with classroom lessons.

The present research study conducted by **smt. Naveeda Khanum**, Lecturer Diet ,is a comprehensive work. Further the findings and recommendation of this study definitely prove supportive to proper monitoring and supervision regarding implementation of the training at school level.

Nanjaiah C

Principal DIET ,Shimoga

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Chapter I

INTRODUCTION

1.1 Background of the Study- in order to transform Indian society to knowledge society it is required to transform schools in to platforms wherein we can make knowledge citizens .The most effective way of achieving this is dissemination of quality, open access and changing practices as per current needs. In the 21st century technology is considered to be a potential instrument in social and cultural development, therefore with the objective of enabling the outgoing secondary school students to participate in the competitive field of information technology with courage and confidence and to develop effective learning the Karnataka state government launched different projects With the support of outsource but they didn't bear expected results therefore in 2016-17 approved a new programme to bring digital literacy among students under the head IT@schoolskarnataka TALP.

To bring quality in education different practices are adopted in school system with special focus to class room process prominent among them, is TALPIT@Schools in Karnataka. This initiative is supported by open resources.

1.2. ICT Policy Framework and Delivery Mechanism in Karnataka

The various policies and plans adopted by the State of Karnataka to bring in an ICT-based educational change in the state.

IT Policy

Karnataka State Education Act 1983 (amended in 1998) does not mention the use of ICTs for primary and secondary education, neither has the state of Karnataka released any policy for ICTs and primary and secondary education specifically.

However, the state announced its IT policy in the year 1997 known as “Mahiti, The Millenium Information Technology Policy of Karnataka.” In the area of education, the policy plans to take ICT to all the schools and to set up training centers in schools. These centers are to be supported by the private sector to impart teacher training, computer education as well as foster general education with the help of ICT tools. The policy further stipulated that private companies running such centers can employ them for commercial use before and after school hours.

Thus, computer-based education was introduced in Karnataka, starting with 1,000 government Secondary Schools under the Mahiti Sindhu Project in the year 2000 by the Government of Karnataka. The Project was exclusively funded by the State, and later on various other central- and state-funded schemes for ICT in education was introduced in a number of government schools and private grant-in-aid schools.

Teacher Training Programs in Karnataka

As a part of implementing ICT in schools, the State Government of Karnataka has taken up computer training of teachers in a big way. Besides computer literacy, the teachers are trained in using the Internet to enhance their teaching capabilities and skills. The summer vacations are used for computer training of teachers. Apart from the agencies (NIIT, Aptech, Educomp, ECIL, Everonn) who are involved with the aforementioned projects in implementing ICT in schools, Intel, Microsoft, World Links, and the American Indian Foundation are also associated with teacher training programs in Karnataka.

Intel

Intel has a worldwide nonprofit initiative called “Innovation in Education” and have tied up with the Education Department in Karnataka to impart training for teachers to innovatively use computer technology to enhance student learning. This

teacher-training programme in CAL is currently being conducted in 1,000 schools under the “Mahiti Sindhu” programme. Under this program, Intel has trained and created a resource pool of teachers 1,500 master trainers.

Microsoft

Microsoft has tied up with the Education Department with an objective to:

- Accelerate IT literacy among government school teachers and students
- Promote ICT integration in schools

Outcome: Microsoft under a MoU with the State Government has set up three computer academies in Bengaluru, Dharwad, and Gulbarga for teacher training.

Progress:

- 1,864 master trainers trained
- 16,799 teachers trained by master trainers
- 32 teacher educators trained as master trainers
- 256 teacher educators trained by master trainers

World Links India

The World Links India Program was initiated in January 2002, with the training of 30 master trainers from Delhi and Karnataka. As part of Stage I of the World Links India Program, World Links targeted 32 rural and underserved government schools in Delhi and Karnataka. The World Links Karnataka Program was launched in collaboration with DSERT and teachers have completed the Phase I training “Introduction to Internet for teaching and Learning.” As an outcome of the training program teachers in these schools have had an opportunity to work in computer labs and have also accessed the Internet to develop curriculum-based resources for their courses. In Karnataka, World Links is operating in 21 government and government-aided schools: 6 in Bengaluru urban, 8 in Gulbarga, and 7 in Bangalore rural.

Mahithi Sindhu Project

The State of Karnataka has gained worldwide reputation for being in the vanguard of Information Technology. The policy of the Government is to give Computer Education and Computer aided Education free of cost under “Mahithi Sindhu” to VIII, IX and X standard students in 1000 government secondary schools in the state.

While selecting schools, importance was given to girl students of rural areas, SC and ST and backward classes and all sections of society throughout the state. One secondary school was selected from each revenue hobli, also Morarji Desai residential schools were selected for computer education under this program.

The entire cost of “Mahithi Sindhu” project amounting to nearly 210 crores is to be spent during the project period of 5 years from 2001 – 2002 to 2005 – 2006. This project is fully financed by the government of Karnataka. The entire cost of extended “Mahithi Sindhu” project total cost is Rs. 5141 lakhs for 3 years project period. Full grants for this project are funded by government of Karnataka.

Objectives of Mahithi Sindhu Project the Project

This ambitious project aims at giving free computer education and computer based education to the students of government schools, who come from rural and economically weaker sections of the society, thereby enhancing the quality of education being given to them.

The objectives of the “Mahithi Sindhu” project are: MSP period was closed in the year 2006. The Govt. has decided to extend the same project for further 3 years from

2007-08 and identified KEONICS company a govt. undertaking as the implementing agency.

- To enable the students to gain computer education and to understand its applications.
- To enhance the learning levels of the students in curricular subjects through computer aided education using multimedia software CDs.
- To introduce students to the world of opportunities, computers have to offer.
- To enable the students to understand the basics of computer programming.
- To introduce students to the communications media of e – mail and the internet.
- To train rural youth in the use of computers outside school hours.
- To provide opportunities to the entire community to use computers

Special features of Mahiti Sindhu Project

- In addition to computer education, students learn Mathematics, Science, Social Science and English subjects through CD ROMs.
- Students are given hands on experience in e – mail and internet facilities.
- Students have the option of learning through either English or Kannada medium.
- Four periods are set apart a week for computer and computer aided education
- Four periods are set apart a week for computer and computer aided education.
- Teachers of these selected schools and neighboring schools are also trained in the project period.

STF (Subject Teacher Forums):Background

Rashtriya Madhyamik Shiksha Abhiyaan, Karnataka (RMSA), Department of State Educational Research and Training, Karnataka (DSERT), worked to create a 'Teachers Communities of Learning' through the Subject Teacher Forums, Karnataka in Mathematics, Science and Social Sciences across 34 districts of Karnataka. The

program was based on the extensive and intensive use of public digital resources to build and support teachers networks as well as to create a resource rich learning environment these subjects. IT for Change, an NGO, is working as the resource institution for this programme in partnership with RMSA and DSERT.

The JRM team also observed an impressive in-service training program in Karnataka which incorporates ICT in the training (in some government schools teacher support is provided through an open operating system called Subject Teacher Forum under which 5000 teachers across 34 districts have learnt to use digital tools and resources for their subject teaching.

The Information and Communication Technology (ICT) in schools have been subsumed in the Rashtriya Madhyamik Shiksha Abhiyan (RMSA). Now ICT in Schools is a component of the RMSA. The Information and Communication Technology (ICT) in Schools was launched in December, 2004 and revised in 2010 to provide opportunities to secondary stage students to mainly build their capacity on ICT skills and make them learn through computer aided learning process. The Scheme is a major catalyst to bridge the digital divide amongst students of various socio economic and other geographical barriers. The Scheme provides support to States/UTs to establish computer labs on sustainable basis.

Goals of the Subject Teacher Forums

The main objective is to strengthen subject matter expertise amongst teachers and increase the range of curricular resources available to teachers for use in their classroom transactions. From previous research and field work it is believed that there are two core areas that need to be addressed to enable deepening of subject Knowledge among high school teachers they are, 1. Subject matter expertise and 2. Subject teachers' networks.

Gyan Darshan

An educational Television channel DD-Gyan Darshan has been set up by the national telecaster Doordarshan and Indira Gandhi National Open University (IGNOU) with assistance from the Ministry of Education and many educational software makers. It has four round the clock channels offering interesting and informative programs for school-going children, college students and youth seeking career opportunities.

Gyan Vani

Gyan Vani is an educational FM radio channel with day to day programs contributed by various ministries, educational institutions, NGO's and national level institutions such as IGNOU, NCERT, UGC, IIT's and open universities. Gyan Vani serves as a medium for niche listeners and for addressing local educational, developmental and socio-cultural requirements.

Namma Dhwani

VOICES and MYRADA, two NGOs working towards using media for social change, together with UNESCO have initiated 'Namma Dhwani', India's first cable audio initiative, in 1999, in Budikote village, Kolar district, Karnataka. In the absence of legislation that allows for use of airwaves, the Namma Dhwani initiative uses audio cable connections to transmit information to the school and individual homes. The format of the programmes for the school consists of newspaper reading, local news, general knowledge, music, model lessons, and programmes about issues like dowry, environment preservation etc. Programmes for the general public are decided by the community themselves and include entertainment and information on locally relevant matters. More than 350 programmes have been cablecast so far.

Trainers from Delhi and Karnataka. As part of Stage I of the World Links India Program, World Links targeted 32 rural and underserved government schools in Delhi and Karnataka. The World Links Karnataka Program was launched in collaboration with DSERT and teachers have completed the Phase I training

“Introduction to Internet for teaching and Learning.” As an outcome of the training program teachers in these schools have had an opportunity to work in computer labs and have also accessed the Internet to develop curriculum-based resources for their courses. In Karnataka, World Links is operating in 21 government and government-aided schools: 6 in Bengaluru urban, 8 in Gulbarga, and 7 in Bengaluru rural.

EDUSAT: Satellite Project in Karnataka

EDUSAT, a dedicated educational satellite, was launched by the Government of India (in 2004) to serve the educational sectors offering an interactive satellite-based distance education system for the country. In Karnataka, it was proposed to utilize the technology to improve the quality of education at the elementary and secondary schools. In the first phase (launched in March 2005), all the primary schools of Chamarajanagar district were covered, and later on in the same year, it was expanded to the Gulbarga district. With both the districts combined, 1,770 (885 in each district) schools have been covered through EDUSAT.

At present, EDUSAT is also available in 427 schools in Bengaluru rural and 406 schools in Ramnagaram district. From an archive of 450 programmes on science and mathematics, two select episodes of half-an-hour duration each are telecast everyday under the EDUSAT programme. The UPLINK facility was established in DSERT, Bengaluru, and the downlink facilities at all the primary schools are provided with facilities such as ROTs and television sets to receive video lessons through EDUSAT, and with solar power facility to combat the frequent power problems. SSA supports the project in partnership with the Indian Space Research Organization (ISRO).

National Policy on Education- 1992

National Policy on Education tells that it must be given the training to the teachers regarding of ICT, because of the following area can be improved, Exposure

to computers and training to be part of professional education and employing educational technology to spread information and train and re-train teachers.

National Policy on ICT in School Education -2009

National Policy on ICT in School Education give the following recommendations to use of ICT in Schools, it

- ICT literacy and competency enhancement
- ICT enabled teaching-learning process
- Capacity Building of teachers
- ICT infrastructure in schools
- ICT for open and distance learning

State Policies

The few pertinent policies released, between 2000 and 2005, by the state of Karnataka which has allowed for the release of policies addressing ICTs and primary and secondary education, and therefore there are some positive developments that have emanated from their release. These include,

- A certain level of awareness, while far from adequate, has been spread about ICTs and primary and secondary education
- The training of teachers in ICTs has been promoted.
- The importance of employing ICTs for girls' education, and for making girls competent in using computers has been highlighted.

Information Technology Act

The Information Technology Act-2000 emphasized technical higher education, which would help students gain employment in the IT industry; and the Science and Technology Policy 2001 called for the teaching of science at school and college levels. However none of these policies specifically mentioned the use of ICTs for primary or secondary education.

Information Technology Policy 2005

The Information Technology policy 2005 recognized the strategic importance of ICTs as key components of socio-economic development, governance and enhanced service delivery.

Additionally the policy also called for the improvement and spread of education to achieve 10% computer literacy in the state in ten years and 30% in 20 years; and for the state to make use of private networks, cable TV, wireless networks, and the Internet to link all schools, colleges, universities, engineering colleges and research organizations to specialized IT institutes.

ICT Plan in School Education

The Government has introduced various initiatives to facilitate the greater adoption and diffusion of ICT to improve capacities in every field of business, industry, education, and life in general. This includes:

- Enhancement of education and training program
- Provision of an environment conducive to the development of ICT
- Provision of incentives for computerization and automation Creation of venture capital funds

ICT when introduced in the field of education will bring along a new era of Learning with more effective organizational structures in schools, stronger links between schools and society, and the empowerment of disenfranchised learners. The concept of ICT in education includes systems that enable information gathering, management, manipulation, access, and communication in various forms.

Integration of ICT in teacher education is influenced in large part by two sets of factors: national policy and resources, and policies relating to curriculum development.

The Three Main Policies for ICT in Education: The first principle is that technology should be infused into the entire teacher education programme. This principle means that ICT should not be restricted to a single course but needs to permeate all courses in the programme. The second principle advanced by SITE is

that technology should be introduced in context. According to this principle, particular ICT applications like word processing, databases, spreadsheets and telecommunications should not be taught as separate topics but rather encountered as the need arises in all courses of the teacher education programme. The third of the key principles is that students should experience innovative technology-supported Learning environments in their teacher education programme.

This last principle requires that students should see their lecturers engaging in technology to present their subjects, for example, utilizing Power Point or simulations in lectures and demonstrations. Students should also have the opportunity to use such applications in practical classes, seminars and assignments. (Deepti Arora, Shabista Quraishi, and. Zahira Quraishi 2011)

ICT in Secondary Education

Teacher should play a key role as facilitator in the learning process. Teacher training is crucial for laying a road map toward “learning schools” via “learning teachers”. ICTs are a sympathetic mode to mobilize teacher’s creativeness and make their didactic practice more flexible and ingenious. The dominant paradigm so far is that teachers need to be taught likewise they are supposed to teach later on. The dilemma of bringing teachers to a new didactic method like the integration of ICTs comes from the fact that teachers themselves were taught in tradition always for many years. (Narasimham Y 2012)

ICTs area sympathetic mode to mobilize teacher’s creativeness and make their practice more flexible and ingenious. Intensified teacher desire to use ICTs in the learning process nowadays is sustained by the fact that alternative methods of assessment are being developed to decide whether to permit teachers to work on the basis of their expected classroom performance. E-communities become quick and popular ways to discuss staff perfection and teacher training. Alongside with the role of ICTs as a learning tool, their potential role for the teaching process came into focus. It is remarkable that so far the ICT support for teacher has not been focused on

the didactic integration of cognitive learning tools, more interest thus been paid to www-based learning management systems, its main asset is the internet based functionality to deliver the “just – for –you” content “just- in time” and to promote correspondence between the learners (Vladimir, Kinelev, Piet Kommers and Boris Kotsik (2004)

The main role of ICTs is to act as a catalyst for the learner’s interest to get acquainted with the unknown. Even if the content is understood it is not obvious what to learn and why it is important to learn. At the core of curiosity is ones existential awareness what do I see as crucial for me and what tools are critical in this process. It means that the ICT is a bridge between existential and intellectual aspirations. (Vladimir, Kinelev, Piet Kommers and Boris Kotsik (2004) soon as learners perceive the need to learn to improve living conditions, it becomes difficult to prevent them from learning. ICTs as a facility for teaching and learning had gone through various stages before it arrived in its catalytic function now-a-days.

Vladimir, Kinelev, Piet Kommers and Boris Kotsik (2004) the early software prototypes that demonstrated the computer as an electronic teacher stems from the early seventies. The attempt was to program a dialogue between an expert and novice. The expert role was to explain and correct mistakes of the learner. Since more complex structures were introduced, the computer took the role of representing the knowledge domain. Expert systems were established in the early eighties.

The key problem was to make human thinking explicit it. The so called fifth generation of thinking machines failed except smaller attempts in practical reasoning. Intelligent tutoring, simulation and embedded task support systems were built in the early nineties. The attempt created large expectations for the instructional and curriculum designers. ICTs are no longer the instructional format for reconciling pre-requisite learning steps. Now they offer an exploratory space where the learner is in charge of his own education. The teacher here is just a facilitator who stimulates the learner to take risk, understand by analogy, reflect and offer consolation. Even

though there are many factors which may influence an individual's ' Use of ICT' in this study it has been decided to find out relationship of three factors, namely Computer Perception, Computer self-efficacy and Computer skills of secondary school teachers with their ' Use of ICT' (Vladimir, Kinelev, Piet Kommers and Boris Kotsik .2004)

Technology assisted learning programme (TALP)

The state government launched many projects like Mahathir Sindhu, eleventh finance commission, class project, ICT phase I, phase II etc. In collaboration with outsource, to enable the outgoing secondary school students with special priority to rural schools to participate in the competitive field of information technology with confidence and courage, but they did not fulfil the objective of the programmes. Therefore the government launched a new programme that is TALP IT@school which is based on Kerala state model where it is working effectively for last 15 years. TALP is one of the biggest projects to digitalise almost all the schools in five years.

The objectives of this programme are

- Usage of computers.
- e- Literacy.
- Computer and computer based education.
- Quality education.

The features of this project are

- Training to teachers then teachers in turn develop learning materials because they better know about the level of the students and need of their classrooms.
- Here instead of using proprietary technology, **open source** is adopted.
- Integration of ICT is preferred using of educational tools, and open sources.

It is designed to cover the following aspects

- Internet and Browser
- Data, Text, and Media Handling.
- Connection and Connectors.
- Assistive Technology.
- Lab Setup and OS Installation

The tools, content, and the software adopted in this project are open software and open sources. Ubuntu free software is the base of TALP project, and public educational tools like **LIBRE office WRITER** .drawing tools to create mathematical figures and figures related to science. Writing formulas, **LIBRE CALC** for handling data it may be related to assessment or class room process, **LIBRE IMPRESS** to create presentations .**open shot audacity** to modify the videos and to create digital stories, and exploring resources from creative commons, flicker, Wikipedia, as a participant and resource person of this training I feel this as a good strategy to better use OERS in the classes and integrate ICT independently with confidence.

The training is given to the teachers and headmasters, first the training was given in face to face mode for ten days then the training was given using the online course for teachers from ICT curriculum from website. The unit cost of the training is rupees 500/-.

Then all the schools selected for technology assisted programme were funded to set computer lab which ranges from 25000/- to 200000/- .each school is provided with a laptop, projector and screen.

Government of Karnataka partners with Khan Academy

Government of Karnataka has redesigned ICT programme in school education and is implementing Technology Assisted Learning Programme (TALP) from 2016-17 with an objective to complement normal classroom teaching with ICT enabled Teaching and Learning in all subjects as well as to ensure digital literacy for all Secondary School students for enhancing learning achievement. TALP is an

integration of the existing technology assisted programmes of the department such as EDUSAT, Computer based learning under SSA, Tele-Education and ICT- 3.

Use of digital contents in the form of e-content is promoted under TALP to engage the interest of students and enhance their understanding. The Department has mapped the available digital resources in Mathematics and Science subjects to the state curriculum under various programmes such as Karnataka Open Educational Resources, EDUSAT, Radio, Tele-Education, Amrita O'Labs, Agasthya Foundation Science Experiments and many more.

The mapping of resources to other subjects has been initiated. These resources have been pre-loaded to the laptops which are being supplied to schools. A repository of all such e-contents will be made available on the servers located at State Data Centre and schools will be connect to SDC for updates.

Government of Karnataka has partnered with Khan Academy to make available educational content including videos, exercises, articles and teacher tools, in Kannada.

1.3.Computer skills

These are the skills required by Secondary School Teachers for the Usage of computer for the teaching-learning process.

One's ability to utilize the software and sometimes hardware of a computer and they include basic computer skills. Like knowing how to switch on the computer, being able to use a mouse to interact with elements on the screen, Being able to use the computer keyboard and being able to close down the computer after use.

Intermediate skills include being able to use the following

- Word processor
- E-mail
- Spreadsheets
- Databases

- Use the internet.
- Advanced internet skills

1.4. Use of ICT:

Use of Information and communication Technology devices in teaching- learning process by the Secondary School Teachers.

Information and communication technologies are the computing and communication facilities and features that variously support for teaching learning and a range of activities in education such ICT –related activities for example the use of

- Broadcast material or CD-ROM as sources of information.
- Computers with appropriate keyboards another device to teach literacy and writing.
- Devices to facilitate communication for pupils with special needs.
- Integrated learning system to teach basic numeracy.

Communication technology to exchange administrative and assessment

1.5. STATEMENT OF THE PROBLEM

Impact of Talp, It@ Schools in Karnataka Training in Developing Teachers Efficiency Related To Use of ICT Skills in Classroom Process.

1.6. OBJECTIVES

1. To measure and analyze the different levels of confidence of teachers in terms of computer skill or application.
2. . To know the opinion of teachers about advantages and disadvantages of using computer in class room.
3. To know the effect of ICT usage on teaching of teachers.
4. To know the extent of teachers' preparedness for classroom process.
5. To compare the level of confidence in terms of computer skill or application between male and female teachers.

6. To compare the opinion of teachers about advantages and disadvantages of using computer in classroom between male and female teachers.
7. To compare the effect of ICT usage on teaching between male and female teachers of secondary schools.
8. To compare the extent of teachers' preparedness for classroom between male and female teachers of secondary school.
9. To compare the difference of confidence in terms of computer skill or application between rural and urban teachers.
10. To compares the opinion of teachers about advantages and disadvantages of using computer in classroom between rural and urban teachers.
11. To compare the effect of ICT usage on teaching between rural and urban teachers of secondary schools.
12. To study the difference in extent of teachers' preparedness for classroom among secondary school teachers with respect to locality.
13. To measure and analyze the different levels of confidence of teachers in terms of computer skill or application in different taluks of shimoga District.
14. To measure and analyze the opinion of teachers in terms of advantages and disadvantages of using ICT in classroom in different taluks of shimoga District.
15. To measure and analyze the opinion of teachers in terms of effect of ICT on teaching in different taluks of shimoga District.
16. To measure and analyze the opinion of teachers in terms of preparedness for classroom process in different taluks of shimoga District.
17. To compare the level of confidence of teachers of different taluks of Shimoga District.
18. To compare the opinion of teachers of different taluks of shimoga district about advantages and disadvantages of ICT in class room.
19. To compare the effect of ICT on teaching of teachers of different taluks of Shimoga.

20. To compare the preparedness of teachers of different taluks of Shimoga.
21. To know the extent of computer usage by the students and teaches at school for learning and teaching respectively.
22. To compare the extent of computer usage between urban and rural students for learning at school.
23. To study difference in the extent of computer usage between girls and boys (students) for learning at school.
24. To study the performance of students in operating computer system.
25. To study the opinion of students about use of ICT in class room.
26. To compare students' performance and Opinion based on gender.
27. To compare the students' performance and Opinion based on locality.
28. To study the extent of computer usage in administration by the headmaster.
29. To study the problems related to use of computer in schools.
30. To compare ability of teacher in integrating ICT with their teaching subject.
31. To know the extent of usage of computer in assessment
32. To know the opinion of teachers about effect of assignments of training on their teaching.

1.7. NEED AND SIGNIFICANCE OF STUDY

Both the state and central government is supporting the education department specially teachers to strengthen academically in order to bring quality in education. As per the present needs of society each and every one should know computer skills .and internet as almost all the functions are carried through online. Education in the twenty-first century emphasizes the development of what is known as Twenty-first Century Knowledge (North Central Regional Educational Laboratory, 2003). Students who possess Twenty-first Century Knowledge demonstrate the capability to use IT in daily pursuits in four aspects. Firstly, they demonstrate a sound understanding of technology concepts and the ability to apply IT in information processing. Secondly, they demonstrate creative thinking, construct knowledge and

develop innovative products and processes using IT. Thirdly, they use IT to communicate and work collaboratively both to support individual learning and to contribute to the learning of others. They also understand the human, cultural and societal issues related to IT and practice legal and ethical behavior. Fourthly, they use critical thinking skills to plan and conduct research, manage projects, solve problems and make informed decisions using appropriate IT tools and resources.

Researchers have suggested that IT plays three crucial roles in fostering learning in the twenty-first century. Firstly, it acts as a driver to promote learning, projecting learners into a global knowledge society that requires a high level of IT proficiency for success in everyday pursuits. Secondly, IT acts as a bridge to high academic achievement and to more engaged, relevant, meaningful and personalized learning, all of which can lead to higher academic achievement. Thirdly, IT acts as a platform for informed decision-making and accountability, and provides a platform for the use of timely, meaningful data to shape learning opportunities and make informed decisions (Gibson, 2002; Gülbahar, 2007; and Nance, 2003).

To develop the capabilities characteristic of Twenty-first Century Knowledge in students, schools should provide them with ample opportunities to use IT in their learning. Schools should determine the courses of action that facilitate the inculcation of the necessary knowledge about and proper attitude towards the use of IT for learning in the school environment. This creates a need for schools to develop and implement a strategic plan for the use of IT to improve the quality of education in response to the emergence of the knowledge society (Anderson and Dexter, 2005; Gülbahar, 2007; Whitehead, Jenson, and Boschee, 2003).

Students who possess Twenty-first Century Knowledge demonstrate the capability to use IT in daily pursuits in above said four aspects. Hence it is very much important from secondary school teachers' point of view to have the computer skills, and perception so that they can use it effectively in their teaching learning process to make their students in inculcating the IT knowledge and skills. So, in the

present study an attempt was made to assess the implementation of training TALP It@schoolin Karnataka which is launched with the objective of developing above said IT skills.

CHAPTER II

REVIEW OF RELATED LITERATURE

Some of the research studies are reviewed related to use of ICT in teaching and learning process

Anthony Jones (2012) This study aims Based on findings from two quite distinct research projects, this Study proposes that the reluctance of some teachers to make ICT an integral part of classroom teaching and learning is, at least partly, a consequence of several factors beyond their control. This reluctance occurs even though most teachers use one more forms of social networking as part of their out of classroom lifestyle. Two particular examples of teacher reluctance to consider and use ICT as an integral part of teaching are presented and discussed. Both examples arose from recent research projects conducted in Australian schools, and it is argued that the teacher behavior observed could be largely overcome with appropriate professional development.

Meral Hakverdi (2012) The purpose of this study was to examine exemplary science teachers' level of computer use, their knowledge/skills in using specific computer applications for science instruction, their use of computer-related applications/tools during their instruction, how often they required their students to use those applications in or for their science class and factors influencing their decisions in using technology in the classroom. The sample of this study includes middle and high school science teachers who received the Presidential Award for Excellence in Science Teaching Award. Analysis of the survey responses indicated that exemplary science teachers have a variety of knowledge/skills in using computer related applications/tools. The most commonly used computer applications/tools are information retrieval via the Internet, presentation tools, online communication, digital cameras, and data collection probes. Results of the study revealed that students' use of technology in their science classroom is highly correlated with the frequency of their science teachers' use of computer applications/tools.

Wanjala, Elizabeth. K and Mukwa (2011) Found that, few teachers are using ICTs to manage the classroom and to integrate technology into the several content areas. Professional development options were varied. They pointed out the most teachers use trial and error, learn through course work taken at colleges or universities, and support others or receive personal or expert support as significant methods of learning how to use Information Communication Technologies.

Farahiza (2010) Conducted a study on "The effectiveness of using internet as a principal information resource in teaching and learning activity in higher educational institutions in Malaysia". Majority of the previous researchers indicated that there are significant relation between the internet and the student and also the lecturer in using the internet as a principal information resource in teaching and learning activities. This study showed that internet is a technology that considered brought benefits to the student and lecturer in teaching and learning activities as well as the applications provided by the internet.

Mojgan A and Kamariah A,et,al. (2010) The purpose of this study was firstly to identify the extent to which Iranian secondary school principals used computers and secondly to explore the relationship between a number of variables related to the use of information and communications technology (ICT). Findings indicated that four factors played a role in explaining the level of computer use by principals. These factors included high level of computer access, strong perceptions of the attributes of ICT, high level of computer competence, as well as the high level of transformational leadership behaviours, all contributed significantly to the level of computer use by principals. All four constructs are equally important but have varying impacts on computer use. Therefore, all four constructs should be viewed in an integrated manner in accordance to the conceptual model proposed in this study.

Neeraj and Anitha (2010) did a study on “Computer and Internet awareness in school going students”. The study found that the required level of awareness about computer and the internet is not there. The real power of the computer is revealed in the internet. But the penetration of computer and internet is still far from desired.

Queen (2010) Studied on the use ICT in participatory development of teaching and learning English as a global language in Nigeria. Results indicated that there is improvement in the quality of language teaching through the diversification of contents, methods, and as well promoting experimentation, innovation and obtaining and sharing of information. There is wide-range of language learning reforms, hence the need to; (I) Increase access to teachers knowledge and development through interactive technology (II) Increase the people’s awareness on the importance of technology (III) Increase access to instructional resources, increase flexibility in what to learn, how to learn and when to learn (IV) Train teacher to improve the competence in using the new technologies in the instructional activities (V) Increase governmental support in technological programmes and funding in the tertiary institutions. (Vi) Adherence to these needs will help to realize more positive results in the application of technology in language teaching and learning in Nigeria.

Opinion about usage of Ict

Alfred H. Makura (2014) the aim of this study was to investigate students' perceptions of ICT usage by staff and students at a South African University. Results showed that students perceived 'technology for learning' to mean a computer. They were satisfied with its use and functionality since commencing their studies. Students also reported that most lecturers do not use ICT for teaching. Students perceived ICT particularly the computer, as impacting positively on their academic success, academic access and other curricular issues. We concluded that despite the challenges such as an under utilization of other ICT's by lecturers, the students perceived ICT in their learning as useful. Students' perceptions in the use of ICT by themselves and their lecturers did not differ much. Moreover, they suggested ways in which lecturers could use more ICT for teaching and learning purposes. The study suggests that universities should sustain their ICT e-learning programmers and training by channelling financial support if student academic performance and quality are to be enhanced. The positive impact of such initiatives makes a strong case for massive investment in e-learning programmes especially among academic staff.

Antoni, et, al., (2014) This study revied that the potential benefits of digital technology for teaching and learning in schools have been extensively characterized in the academic literature. However, little is known about the factors that affect teachers' perceptions of these benefits. This state of affairs is problematic since we know that teachers' perceptions have an impact on their teaching practices. The ultimate aim of this study was to develop and test a model of the factors affecting primary and secondary school teachers' perceptions about the instructional benefits of digital technology in their teaching practices. Instructional benefits are defined here as the contribution of digital technology in several aspects of curriculum development such as the formulation of learning goals, Preliminary findings suggest that factors such as teaching area, digital literacy, educational ICT training, and

Internet access are important predictors of teachers' perceptions of the instructional benefits of digital technology. The outcomes of the study will help schools and teachers to enhance the use of digital technology in their teaching and learning practices.

Enver Tatar (2013) The aim of this study was to determine the effect of dynamic software on prospective mathematics teachers' perception levels regarding information and communication technology (ICT). The study was conducted to senior prospective teachers studying in a department of secondary mathematics education. It has been observed in the study that learning how to use dynamic software positively affects prospective mathematics teachers' perception levels in a statistically significant way regarding the use of technology in education. In addition, at the end of the study, almost all prospective mathematics teachers were of the opinion that mathematical software will contribute to teaching activities, and they have added that such a contribution will manifest itself in visualization, concretization and result in more effective teaching.

Florence. Miima, Samson Ondigi and Rose Mavisi (2013) This study discussed the results of exploratory study of integration of ICT in teaching and learning of Kiswahili language in Kenyan secondary schools taking the case of Kakamega county in western part of Kenya. The findings established that most Kiswahili teachers understand the benefit of integrating ICT in teaching and learning of Kiswahili language but they are not willing to adopt it due to various challenges. The paper examines how Kiswahili language teachers integrate ICT into everyday classroom practice, their perceptions, constraints, and their reservations. It also considers use of ICT along with the influences of established curriculum practice and policy upon Kiswahili language teacher's willingness to develop new forms of activity and pedagogy. The case study provides some information on integration of ICT at all level of language teaching and learning in education

CHAPTER III

METHODOLOGY

The detailed explanation of various aspects pertaining to the study is given ahead.

3.1 STATEMENT OF THE PROBLEM

The problem selected for the present investigation was, **Impact of TALPIT@schools in Karnataka** in Developing Teachers Efficiency Related to Use of ICT Skills in Classroom Process

3.2 VARIABLES OF THE STUDY

The following variables are considered for the present study,

1. Confidence level in ICT use and application.
 2. Opinion about advantages and disadvantages of ICT
 3. Effect of use of ICT on teaching.
 4. Preparedness for class room process.
 5. Use of ICT in Assessment.
 6. Opinion about Assignment.
 7. Performance of students in operating computer.
 8. Extent of usage of computer in teaching, learning and administration
 9. Ability in integrating ICT tools with lesson.
 10. **Moderator variables**
- 5) Locality

- 6) Gender
- 7) Type of school
- 8) Teacher's subject background.

3.3. OPERATIONAL DEFINITIONS.

Confidence level in ICT use and application

It is an individual's belief that he or she can perform a specific computer task. Level of confidence in computer skill or application is defined as the judgment of one's capability to use computer technology. The strength of a level of confidence on individual is regarding his or her ability to perform various tasks in the system.

Opinion about advantages and disadvantages of ICT:

It is the opinion of the teachers about the benefits and problems associated with the use of computers in teaching.

Effect of ICT on teaching: it is related to positive effect of ICT on the role, classroom climate, and relationship with pupil.

Preparedness: readiness with ICT tools to the classroom process.

Assessment: it is related to CCE regarding preparation of tools analysis, data entry using computer.

Assignment: refers to the on line activities to be completed by the teachers related to induction 1.

Use of computers: frequency of using computers in teaching and learning process.

Performance: ability to complete the task related to computer operation.

Opinion about using computer in class room: It is the opinion of the students related to whether the ICT enhance and make their learning joyful or not.

Administration: related to usage of email, documentation of school activities, data about teachers and students.

Secondary School Teachers

It refers that the teachers teaching for 8th, 9th and 10th class students, and their minimum Qualification is B.A., B.Ed. or B.Sc., B.Ed. respectively.

Gender: It refers to the biological distinction which differentiates male from female Secondary School Teachers.

Locality (Urban and Rural)

Locality means the place or area to which the school belongs to. That is whether the teacher belongs to rural or urban area schools.

Type of school

Government School: This is a type of school which gets financial assistance and related to computer lab and training governance by Karnataka state government.

Teacher subject background

a. Arts Teacher-It refers that the teachers teaching subjects like History, English, and Kannada for 8th, 9th and 10th class students and their minimum Qualification is B.A., B.Ed. respectively.

b. Science Teacher- It refers that the teachers teaching subjects like Science and Mathematics for 8th, 9th and 10th class students, their minimum Qualification is B.Sc., B.Ed. respectively.

3.4 Hypotheses of the Study

For testing significance of difference, null hypothesis is a useful form of stating hypothesis.

1. There is no significant difference between the mean scores of male and female teachers of secondary school in level of confidence in ICT skills or application.

2. There is no significant difference in mean scores of male and female teachers in opinion about advantages and disadvantages of using computers in classroom.
3. There is no significant difference in mean scores of male and female teachers in the effect of ICT usage on teaching.
4. There is no significant difference in mean scores of male and female teachers in preparedness for classroom process.
5. There is no significant difference between the mean scores of rural and urban teachers of secondary school in level of confidence in ICT skills or application.
6. There is no significant difference in mean scores of rural and urban teachers in opinion about advantages and disadvantages of using computers in classroom.
7. There is no significant difference in mean scores of urban and rural teachers in the effect of ICT usage on teaching.
8. There is no significant difference in mean scores of rural and urban teachers in preparedness for classroom process.
9. There is no significant difference in mean scores of teachers of different taluks in terms of level of confidence.
10. There is no significant difference in mean scores of teachers of different taluks in terms of opinion.
11. There is no significant difference in mean scores of teachers of different taluks in terms of effect of ICT on teaching.
12. There is no significant difference in mean scores of teachers of different taluks in terms of preparedness.
13. There is no significant difference between mean scores of boys and girls related to performance in operating system and opinion about usage of computers in classroom process.
14. There is no significant difference between mean scores of rural and urban students related to performance in operating system and opinion about usage of computers in classroom process.

3.5. Research Method

The study was conducted through descriptive method of research. The descriptive research method has been most widely used by the researchers in educational area. It helps in explaining educational phenomena in terms of conditions or relationships among the variables. The method requires a sample and certain research tools for conduct of study.

The present study was intended to test the confidence Level of the teachers in ICT skill or application, opinion about advantages and disadvantages of using ICT in class room, impact of ICT on teaching etc. Since the study is quantitative and qualitative in nature survey method was used for the present study.

3.6 Sampling

Sampling is very important and crucial part of behavioral research. It is indispensable to educational research. The research work cannot be undertaken without the selection of the sample. The study of entire target population is practically not possible. Cost, time and other factors come in the way of studying of the target population. Sampling makes the research feasible within the available resources. David S. Fox (1969) remarks, “it is not possible to collect data from every respondent relevant to our study, but only from some fractional part of the respondents. This process of selecting the fractional part is called sampling”. As this is impact of TALP it@ schoolsinkarnata the schools under this intervention are selected for the study.

For the present study, Survey is used in descriptive method. The population includes **55** (fifty five) Secondary Schools of shimoga district.

Questionnaires were selected as the major evidence source for the research in this study .

Kumar (2005:33) states that a questionnaire is a “written list of question the answers to which are recorded by respondents read the question interpret what is expected and then write down the answers.

3.7 Questionnaire Design

In order to design a valid questionnaire a researcher must consider in detail the information he or she is seeking to draw out of the data in conjunction with the research questions (Anderson_2004) Neuman (2003) suggests that a good survey questions will produce effective measures from which the researcher can aim to answer the research question .the current There are many important research methods employed by social researcher to secure the data needed to answer their research questions. All have their own strengths and weaknesses and are more or less suited to different projects .two of the most commonly employed data. Collection methods are questionnaire and observation .this way helps in collecting

Clear picture of the information.

An accurate measurement of the data.

Evidence that supports the subjects matter.

Questionnaire for the Study

In order to design a valid questionnaire a researcher must consider in detail the information he she is seeking to draw out of the data, in conjunction with the research question (Anderson 2004)

Neumann (2003) suggests that a good survey questions will produce effective measure from which the research can aim to answer the research question.

The current questionnaire was designed after I went through many questionnaires of studies and research in educational technology, having read these studies I found that they are dealt with effectiveness of educational technology in teaching methods of secondary schools.

Since the study focuses on the scale and nature of ICT use .I consider it important to distribute questionnaire to students, teachers and headmasters of TALPIT@Schools

3.8 Tools Used for the Study

1. Questionnaire for the teacher

Section I. is to know the teachers confidence level in ICT use, it consists of 13 items and responses range, from very unconfident to very confident.

Section II. Consists of 10 items about teachers' opinion about the advantages and disadvantages of using ICT in their teaching methods. This is also designed based on Likert scale which ranges from strongly agree to strongly disagree.

Section III. Consists of impact of ICT use on the teacher and is again designed based on Likert scale which also ranges from strongly agree to strongly disagree.

Section .IV is to know about the preparedness of teaches for classroom process

It consists of 6 items the frequency is considered related to creation and collection of videos, images, and presentations.

Section V consists of the four items to know the extent of usage of ICT for assessment this is also based on three point Likert scale.

Section VI is to know about opinion of teachers about assignment it is also based upon 3 point Likert scale.

2. Lesson observation format: to know the ability to integrate Lesson with ICT tools and to observe the type of ICT tool used.

3. Questionnaire to students.

Section I consists of general information and to elicit the frequency regarding usage of computers by the teachers.

Section II consists of extent of use of computer by the students it is based on the frequency Likert type scale which ranges from never to everyday.

Section III consists of 5 items to assess the performance of the students in operating system.

Section IV consists of 12 items to know the opinion of the students about using computer in classroom. It is also prepared based on Likert scale which ranges from strongly agree to strongly disagree having 5 points.

3. Questionnaire to the Headmaster

Section I consists of 5 components to know usage of ICT in administration based on Likert type three point scale which ranges from never to every time.

Section II consists of 2 items to know whether the teachers are using ICT regularly and to know the problems related to usage of ICT in schools.

Pilot Study

After constructing the questionnaires, a pilot test was conducted on Secondary School Teachers and students in shimoga district, Karnataka state, India. The test was conducted with a view to find out the reliability and validity of the tool and also to eliminate ambiguity so that the responders do not have any difficulty in responding to the items in the questionnaire.

Establishing Validity:

Content validity

The statement on the scale are all related to the area of study and each one independently focuses on what it claims to measure, this confirms the face validity of the scale. Content validity is established via expert analysis relevant to the target construct. Content validity was established for the questionnaires by attaching test booklets by giving to experts, which included Research guides, Educational Psychology experts and senior Teacher Educators to decide the content validity of the test. The experts agreed that the statements in the questionnaire are relevant and worthwhile for collecting the data and considering the suggestions of the experts,

some of the items and responses were modified and rewritten. The experts were satisfied with the relevance of the test items and the scoring procedures. Thus the content validity of the tool was established.

This implies that the questionnaire is comprehensive and relevant.

Establishing Reliability:

Cronbach's Alpha method

The Reliability test was found by the use of Cronbach's Alpha reliability formula. The cronbach alpha value is above 0.75 in all the cases.

Scoring Procedure

The scale was constructed by the use of Likert's methods of summation to get a five point Judgment on each item. Against each statement five alternative responses namely "Strongly Agree (SA) Agree (A) Undecided (U) Disagree (D) and Strongly Disagree (SD)," were given. Weights of 5.4.3.2 and 1 were given for positive statements in the order of their favourableness and for negative statements scoring system is reversed. Thus if any chooses strongly agree response for a favourable (positive) statement s/he gets a score of "5" and for the same response, if the statement is unfavourable (negative) one gets score of "1". Only for the undecided responses one gets always a score of "3" whether a statement is favourable or unfavourable. An individual's score in this scale is the sum total of the scores for all the statement by the subject (summated ratings). The higher the score in the scale, the greater will be the score in this scale, the greater will be the computer perception. The same procedure was followed in 3 point scale.

Observation format: is adopted which is given by the department and in use in education colleges with some modification.

Statistical Techniques used

In the present study the following statistical techniques were used to analyze the collected data with a view to test the hypotheses.

‘t’ test : ‘t’ test is used to know the significance differences between two means.

Analysis of Variance (ANOVA): The principles involved in the analysis of variance are the comparison of variability found within the groups. As two-way analysis of variance permits the simultaneous study of two factors as well as interaction between the two, this technique was used for the purpose of analysis of data.

Quartiles –are used to divide the population in to categories based on their score.

3.9 Delimitation of the study:

The following are the delimitations of the study:

1. The study is limited to seven taluks of shimoga district Karnataka state. .
3. The study is limited to Secondary School which are under TALP IT@SCCHOOLSINKARNATAKA.
4. The study is limited to secondary school teachers in shimoga district.
5. The study is limited to variables of the study.

On the basis of the method of analysis mentioned in this chapter, the related hypotheses were tested to draw inferences regarding the study. In the next chapter the details regarding analysis of data for testing the hypotheses, discussion, interpretation of results and conclusions are presented in detail.

Chapter IV

ANALYSIS OF DATA AND INTERPRETATION

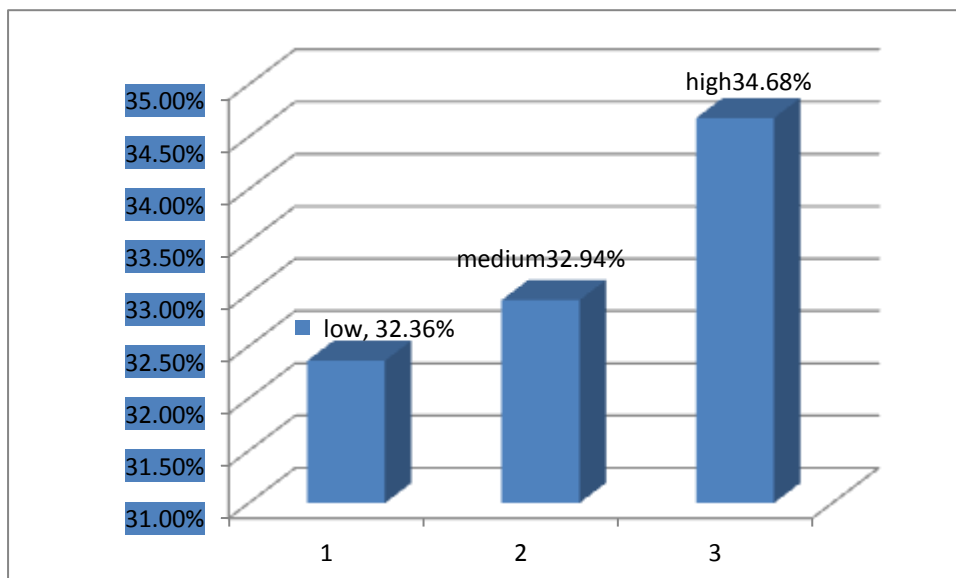
The present chapter is devoted to analysis and interpretation of data. The details of testing of hypotheses and their interpretation would be discussed in the following pages.

Objective- 1.To measure and analyze the different levels of confidence of teachers in terms of computer skill or application.

Table- 4.1 Shows level of confidence

Sl.No	Levels	CI	No of teachers(F)	%
1	Low	0 to 46	56	32.36
2	Medium	47 to 51	57	32.94
3	High	52 and above	60	34.68
Total			173	100

Table -4.1 shows the result related to teachers ICT confidence where they were invited to rate the confidence on a Likert scale of 1-5 from very unconfident (1) to very confident (5) for a range of ICT skill or application .The degree of confidence is classified as high if the score ranges from 52 and above; medium if it ranges from 47 to 51; low if it ranges from 0 to 46.The above table reveals that , nearly 32.36% of the teachers having low level of confidence in terms of computer skill and application, 32.94 teachers having medium level of confidence and 34.68% of teachers having high level of confidence.



Graph 4.1 shows the level of confidence.

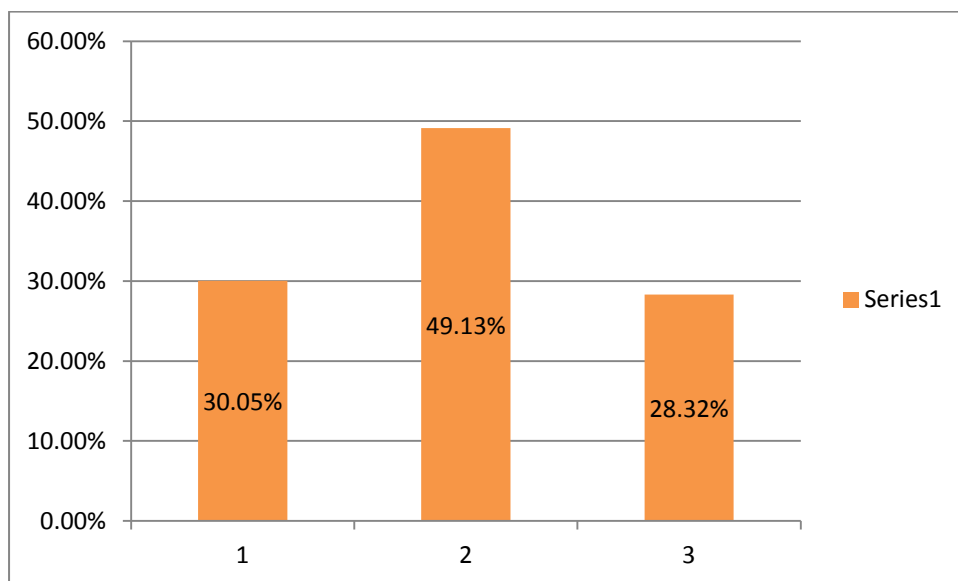
Objective -2. To know the opinion of teachers about advantages and disadvantages of using computer in class room.

Table No-4.2 shows the level of opinion of teachers.

Sl.No	Levels	CI	No of teachers(F)	%
1	Low	0 to 35	52	30.05
2	Medium	36 to 39	85	49.13
3	High	40 and above	49	28.32
Total			173	100

Table 4.2 shows opinion amongst the teachers, where they were invited to rate the opinion on a Likert scale of 1-5 from strongly disagree (1) strongly agree (5) and vice versa for negative statements, for advantages and disadvantages of using computers in classroom .The degree of agreement is classified as high if the score is above 40; medium if it ranges from 36 to 39; low if it ranges from 0 to 35. The above table reveals that, nearly 30.05% of the teachers having low level in terms of opinion about advantages and disadvantages of using computer, 49.13% teachers having medium and 28.32% of teachers having high level of opinion.

The graph4.2 shows the opinion about ICT in classroom



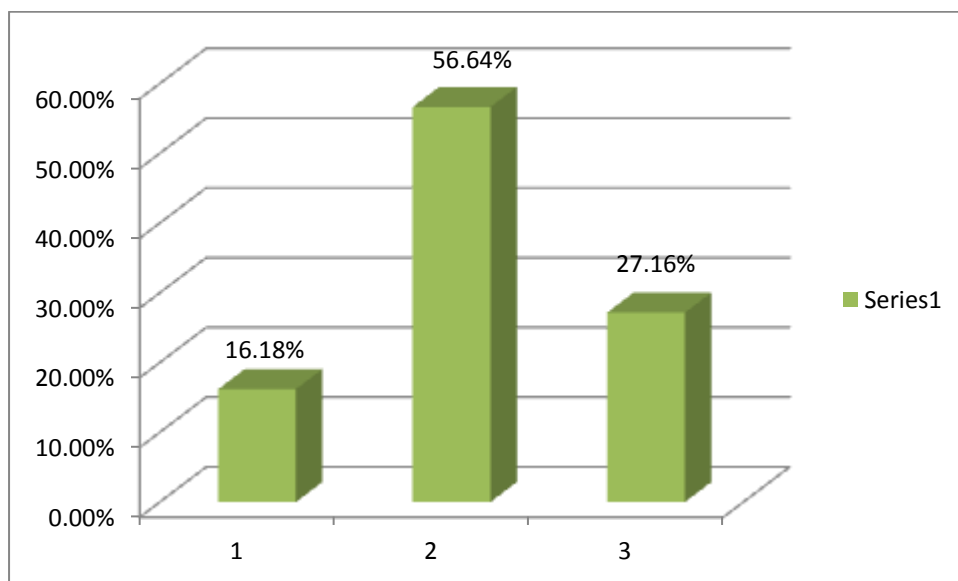
Objective-3. To know the effect of ICT usage on teaching of teachers

Table 4.3 shows the effect of ICT usage on teaching of teachers.

Sl.No	Levels	CI	No of teachers(F)	%
1	Low	0 to 11	28	16.18
2	Medium	12	98	56.64
3	High	13 and above	47	27.16
Total			173	100

Table 4.3 shows effect of ICT on teaching amongst the teachers, where they were invited to rate on a Likert scale of 1-5 from strongly disagree (1) strongly agree (5). The degree of agreement is classified as high if the score is above 13; medium if it is 12; low if it ranges from 0 to 11. The above table reveals that, nearly 16.18% of the teachers having low level in terms of effect of ICT on teaching, 56.64% teachers having medium level and 27.16% of teachers having high level of effect.

Graph No-4.3 shows levels of effect of ICT on teaching.



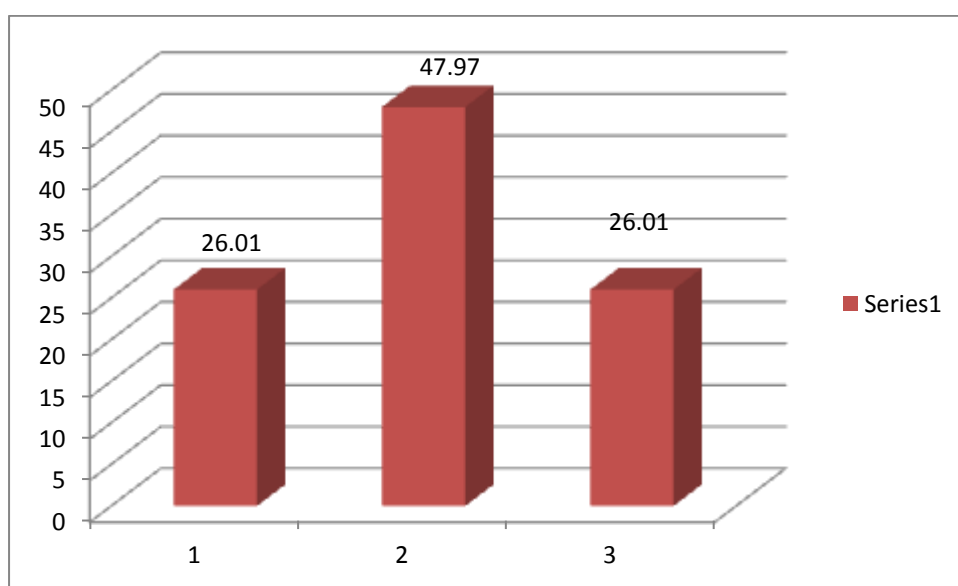
Objective-4.To know the extent of teachers’ preparedness for classroom process.

Table No-4.4 shows the levels in terms of preparedness.

Sl.No	Levels	CI	No of teachers(F)	%
1	Low	0 to 8	45	26.01
2	Medium	9 to 16	83	47.97
3	High	17 and above	45	26.01
Total			173	100

Table no- 4.4. shows level of preparedness amongst the teachers where they were invited to rate the preparedness on a frequency of ICT tools created or shared is classified as high if the score ranges from 17 and above; Medium if it ranges from 9 to 16; low if it ranges from 0 to 8. The above table reveals that, nearly 26.01% of the teachers having low level in terms of preparedness, 47.97% teachers having medium level and 26.01% of teachers having high level of preparedness.

Graph No-4.4 shows the levels of preparedness.



The above graph represents low, medium and high rating related to preparedness.

Objective-5. To compare the level of confidence in terms of computer skill or application between male and female teachers.

Hypothesis -1. There is no significant difference between the mean scores of male and female teachers of secondary school in level of confidence in ICT skills or application.

Table No-4.5 shows the group statistics related to gender.

	Gender	N	Mean	Std. Deviation	t-value
confidence level	Male	93	50.0323	6.49490	0.584
	Female	80	49.4750	6.03990	
Opinion	Male	93	37.8817	6.44854	.887
	Female	80	37.1125	4.93757	
Effect	Male	93	11.7957	2.32453	1.848
	Female	80	12.3375	1.49212	
Preparedness	Male	93	13.1398	6.49681	1.797
	Female	80	11.5125	5.40977	

Table No-4.5 reveals that the obtained t value (0.584) is less than the theoretical table value 1.96 at 171 degrees of freedom and at 0.05 significance .Therefore the null hypothesis that is there is no significant difference between male and female teachers in developing level of confidence is accepted.

Objective-6.To compare the opinion of teachers about advantages and disadvantages of using computer in classroom between male and female teachers.

Hypothesis -2.there is no significant difference in mean scores of male and female teachers in opinion about advantages and disadvantages of using computers in classroom

Table No-4.5 reveals that the obtained t value (0.887) is less than the theoretical table value 1.96 at degree of freedom 171 and at 0.05 significance .Therefore null hypothesis that is there is no significant difference between male and female teachers in opinion about advantages and disadvantages of using computers in classroom is accepted.

Objective-7. To compare the effect of ICT usage on teaching between male and female teachers of secondary schools

Hypothesis -3.There is no significant difference in mean scores of male and female teachers in the effect of ICT usage on teaching.

Table No-4.5 reveals that the obtained t value (1.848) is less than the theoretical table value 1.96 at degree of freedom 171 and level of 0.05 significance .Therefore null hypotheses that is there is no significant difference between male and female teachers in the effect of ICT usage on teaching is accepted.

Objective-8. To compare the extent of teachers’ preparedness for classroom between male and female teachers of secondary school.

Hypothesis-4.there is no significant difference in mean scores of male and female teachers in preparedness for classroom process

Table no-4.5 reveals that the obtained t value (1.797) is less than the theoretical table value 1.96 at degree of freedom 171 and level of 0.05 significance .Therefore null hypothesis; there is no significant difference between male and female teachers in preparedness is accepted.

Table 4.6 shows the Group Statistics related to locality

	Localit y	N	Mean	Std. Deviation	t-value
confidence level	Urban	77	51.1688	6.28156	2.653
	Rural	96	48.6563	6.07640	
Opinion	Urban	77	37.7013	4.60282	.369
	Rural	96	37.3854	6.61954	
Effect	Urban	77	12.4416	2.00324	2.355
	Rural	96	11.7292	1.94384	
Preparedness	Urban	77	12.7792	6.07545	.761
	Rural	96	12.0729	6.05457	

Objective-9. To compare the difference in level of confidence in terms of computer skill or application between rural and urban teachers

Hypothesis -5. There is no significant difference between the mean scores of rural and urban teachers of secondary school in level of confidence in ICT skills or application.

Table No-4.6. Reveals that the obtained t value (2.653) is more than the theoretical table value 1.96 at degree of freedom 171 at 0.05 significance .Therefore the null hypothesis is rejected and formulated the alternative hypothesis that there is significant difference between mean scores of urban (51.68) and rural (48.65) teachers in developing level of confidence.

Objective-10. To compare the opinion of teachers about advantages and disadvantages of using computer in classroom between rural and urban teachers

Hypothesis -6. there is no significant difference in mean scores of rural and urban teachers in opinion about advantages and disadvantages of using computers in classroom

Table No-4.6 reveals that the obtained t value (0.369) is less than the theoretical table value 1.96 at degree of freedom 171 and 0.05 significance .Therefore the null hypothesis that is there is no significant difference between rural and urban teachers in opinion about advantages and disadvantages of using computers in classroom is accepted.

Objective-11. To compare the effect of ICT usage on teaching between rural and urban teachers of secondary schools

Hypothesis -7. There is no significant difference in mean scores of urban and rural teachers in the effect of ICT usage on teaching.

Table no-4.6 reveals that the obtained t value (2.355) is more than the theoretical table value 1.96 at degree of freedom 171 and at 0.05 significance .Therefore the null hypothesis that is there is no significant difference between rural and urban teachers in the effect of ICT usage on teaching is rejected and formulated alternative hypothesis that is there is significant difference in the mean scores of urban (12.44) teachers and mean score of rural (11.72) at degree of freedom 171 and 0.05 significance.

Objective-12. To study the difference in extent of teachers' preparedness for classroom process among secondary school teachers with respect to locality.

Hypothesis-8.there is no significant difference in mean scores of rural and urban teachers in preparedness for classroom process

Table No-4.6 reveals that, the obtained t value is 0.761 it is less than the theoretical table value 1.96 with degrees of freedom 171 at 0.05 level of significance, i.e., the above null hypothesis-8 is accepted therefore “There is no significant difference in extent of teachers’ preparedness for classroom among secondary school teachers with respect to locality is accepted.

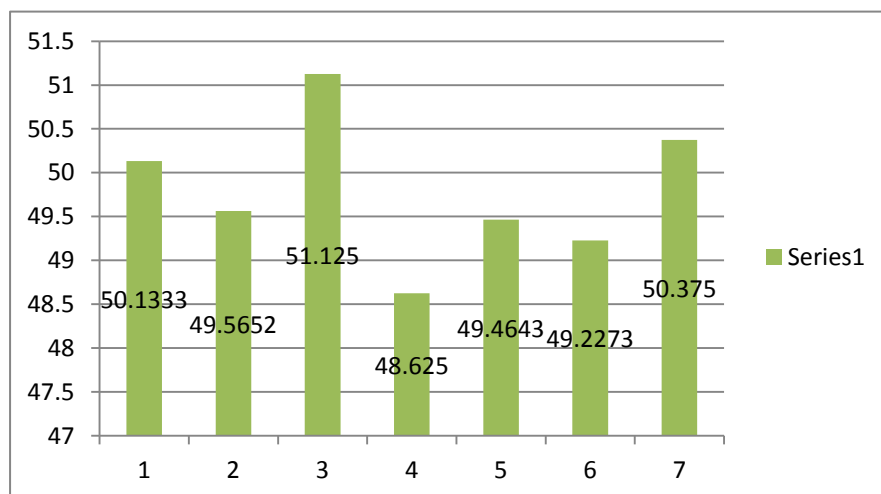
Objective -13.To measure and analyze the different levels of confidence of teachers in terms of computer skill or application in different taluks of shimoga District

Table- 4.7.Showing mean scores of teachers of different taluks’ related to confidence level

		N	Mean	Std. Deviation
confidence Level	SHIMOGA	30	50.1333	6.70426
	BHADRAVATHI	23	49.5652	5.75899
	SORABA	16	51.1250	6.27030
	THIRTHALLI	8	48.6250	9.66492
	SHIKARIPURA	28	49.4643	6.14324
	SAGARA	44	49.2273	5.89388
	HOSANAGARA	24	50.3750	6.31639
	TOTAL	173	49.7746	6.27667

The above table reveals that max .mean value is 51.12 and Min. mean value is 48.62. The difference is less.

Graph 4.7 showing the mean score of different taluks of shimoga in confidence level



1. Shimoga; 2. Bhadravathi; 3.Soraba; 4Thirthalli; 5.Shikaripura; 6.Sagara; 7.Hosanagar

Objective-14. To measure and analyze the opinion of teachers in terms of advantages and disadvantages of using ICT in classroom in different taluks of shimoga District

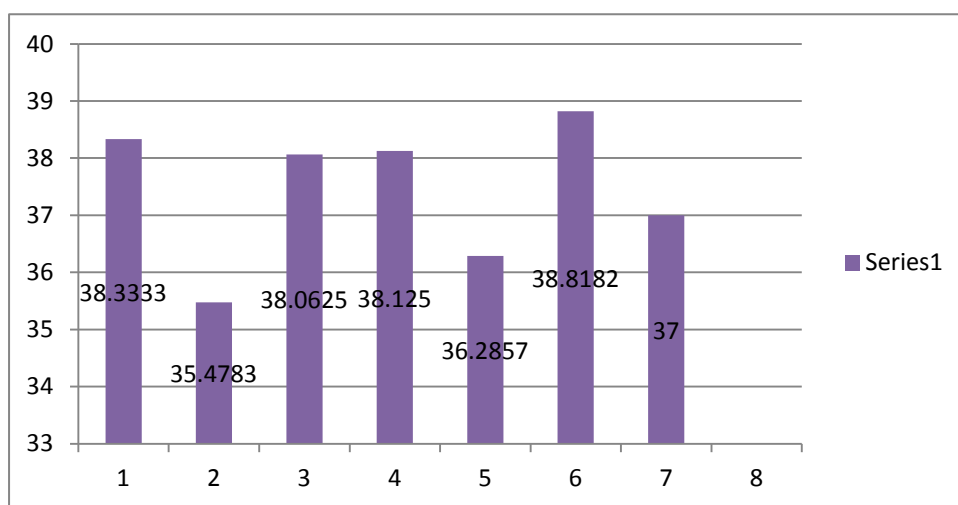
Table- 4.8.Showing mean scores of teachers of different taluks' related to opinion.

		Taluk	N	Mean	S.D
Opinion	SHIMOGA		30	38.3333	3.44747
	BHADRAVATHI		23	35.4783	6.63921
	SORABA		16	38.0625	5.33503
	THIRTHALLI		8	38.1250	5.56616
	SHIKARIPURA		28	36.2857	4.16206
	SAGARA		44	38.8182	5.04525
	HOSANAGARA		24	37.0000	9.34833
	TOTAL		173	37.5260	5.79551

The above table reveals that max .mean value is 38.8 and Min. mean value is 35.47

The difference is less.

Graph 4.8 showing the mean score of different taluks of shimoga in opinion



1. Shimoga; 2. Bhadravathi; 3.Soraba; 4Thirthalli; 5.Shikaripura; 6.Sagara; 7.Hosanagar

Objective-15. To measure and analyze the opinion of teachers in terms of effect of ICT on teaching in different taluks of shimoga District

Table no 4.9 Showing mean scores of teachers of different taluks' related to effect of ICT on teaching.

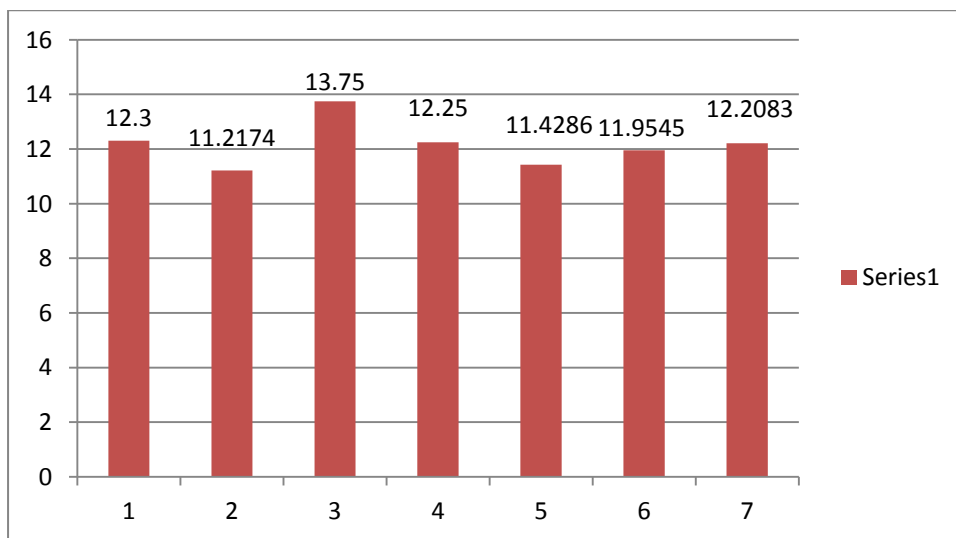
	Taluk	N	Mean	S.D
EFFECT	SHIMOGA	30	12.3000	1.11880
	BHADRAVATHI	23	11.2174	3.27465
	SORABA	16	13.7500	1.34164
	THIRTHALLI	8	12.2500	.46291
	SHIKARIPURA	28	11.4286	1.50132
	SAGARA	44	11.9545	1.64182
	HOSANAGARA	24	12.2083	2.39527

TOTAL		173	12.0462	1.99655
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The above table reveals that max .mean value is 13.75 and Min. mean value is 11.2.

The difference is less.

Graph no 4.9



1. Shimoga; 2. Bhadravathi; 3.Soraba; 4Thirthalli; 5.Shikaripura; 6.Sagara; 7.Hosanagar

Objective-16. To measure and analyze the opinion of teachers in terms of preparedness for classroom process in different taluks of shimoga District

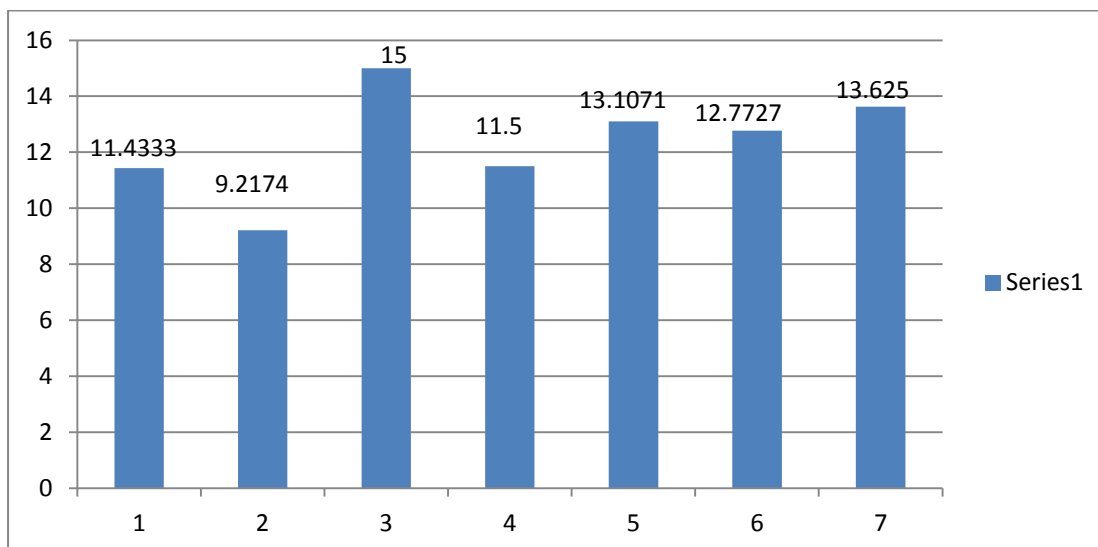
Table no 4.10 Showing mean scores of teachers of different taluks' related to preparedness.

	Taluk	N	Mean	S.D
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preparedness	SHIMOGA	30	11.4333	6.24601
	BHADRAV ATHI	23	9.2174	6.20085
	SORBA	16	15.0000	6.02218
	THIRTHAH ALLI	8	11.5000	3.11677
	SHIKARIPU RA	28	13.1071	5.18073
	SAGARA	44	12.7727	6.51247
	HOSANAG ARA	24	13.6250	5.67077
	Total	173	12.3873	6.05645

The above table reveals that max .mean value is 15.0 and Min. mean value is 9.2.

Graph no 4.10



1. Shimoga; 2. Bhadravathi; 3.Soraba; 4Thirthalli; 5.Shikaripura; 6.Sagara; 7.Hosanagar

Table No -4.11.ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
confidence level	Between Groups	69.148	6	11.525	.285	.943
	Within Groups	6707.060	166	40.404		
	Total	6776.208	172			
Opinion	Between Groups	246.655	6	41.109	1.234	.291
	Within Groups	5530.478	166	33.316		
	Total	5777.133	172			
Effect	Between Groups	76.192	6	12.699	3.459	.003
	Within Groups	609.438	166	3.671		
	Total	685.630	172			
Preparedness	Between Groups	431.741	6	71.957	2.032	.064
	Within Groups	5877.311	166	35.405		
	Total	6309.052	172			

I

Objective -17 to compare the level of confidence of teachers of different taluks of shimoga.

Hypothesis -9.There is no significant difference in mean scores of teachers of different taluks in terms of level of confidence.

Table 4.11 reveals that the obtained F value 0.825 is less than the theoretical table value 2.1 .therefore there is no significant difference in mean scores of teachers of different taluks in level of confidence. Hence the null hypothesis, there is no significant difference in mean scores of teachers of different taluks in terms of level of confidence is accepted.

Objective -18 to compare the opinion of teachers of different taluks about advantages and disadvantages of ICT in classroom .

Hypothesis -10.There is no significant difference in mean scores of teachers of different taluks in terms of opinion.

Table 4.11 reveals that the obtained F value 1.234 is less than the theoretical table value 2.1 .therefore there is no significant difference in mean scores of teachers of

different taluks in opinion. Hence there is no significant difference in mean scores of teachers of different taluks in terms of opinion accepted.

Objective -19 to compare the effect of ICT on teaching of teachers of different taluks in shimoga district.

Hypothesis -11. There is no significant difference in mean scores of teachers of different taluks in terms of effect of ICT.

Table 4.11 reveals that the obtained F value 3.459 is more than the theoretical table value 2.1 .therefore there is significant difference in mean scores of teachers of different taluks in effect of ICT. Hence the null hypothesis, there is no significant difference in mean scores of teachers of different taluks in terms of level of confidence is rejected and alternative hypothesis ,there is significant difference in the mean scores of teachers of different taluks in effect of ICT on teaching is formulated.

Objective -20 to compare the preparedness of teachers of different taluks of shimoga.

Hypothesis -12. There is no significant difference in mean scores of teachers of different taluks in terms of preparedness.

Table 4.11 reveals that the obtained F value 2.032 is less than the theoretical table value 2.1 .therefore there is no significant difference in mean scores of teachers of different taluks in preparedness. Hence the null hypothesis, there is no significant difference in mean scores of teachers of different taluks in teams of preparedness is accepted.

Objective -21. To know the extent of computer usage by the students at school for learning and by the teachers for teaching respectively.

Table no-4.12 showing the frequency of students usage of computers for learning

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Never	118	52.9	52.9	52.9
once in a month	30	13.5	13.5	66.4
about once in a week	48	21.5	21.5	87.9
2 to 3 times a week	25	11.2	11.2	99.1
every day	2	.9	.9	100.0
Total	223	100.0	100.0	

The above table reveals that more no of students i.e. 118 never use computer for learning and only 02 members use every day.

Graph no 4.11 shows the extent of usage of computer by the students at school.

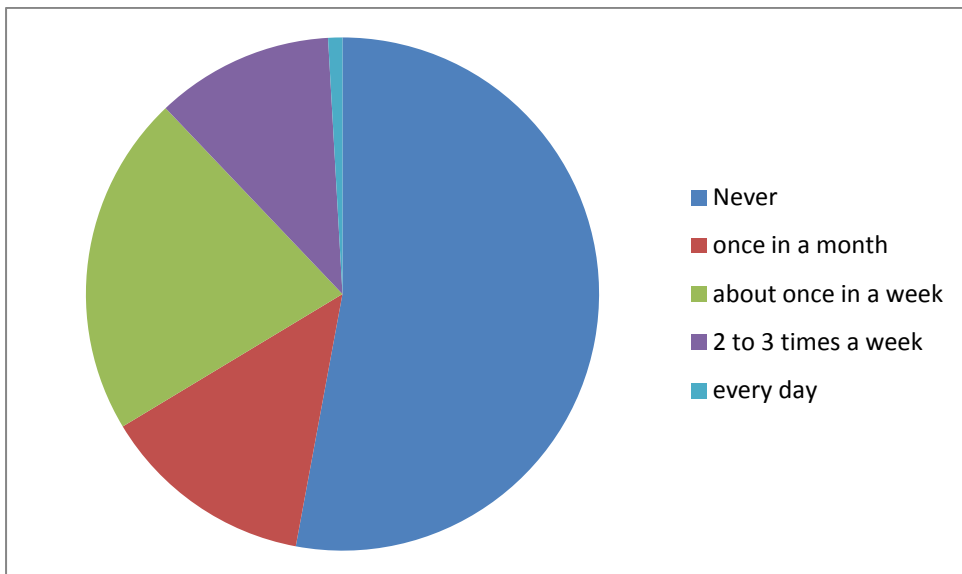


Table no 4.13 shows the extent of usage of computer by the teachers for teaching at school.

	English	Mathematics	Science	S.S
Never	Nil	Nil	Nil	Nil
once in a month	55%	72%	39%	56%
about once in a week	30%	20%	41%	34%
2 to 3 times a week	15%	8%	20%	10%
every day	Nil	Nil	Nil	Nil
Total	100%	100%	100%	100%

The above table reveals that teachers don't use ICT every day. More percentage is for the category once a month.

Objective -22 to compare the extent of computer usage between urban and rural students for learning at school

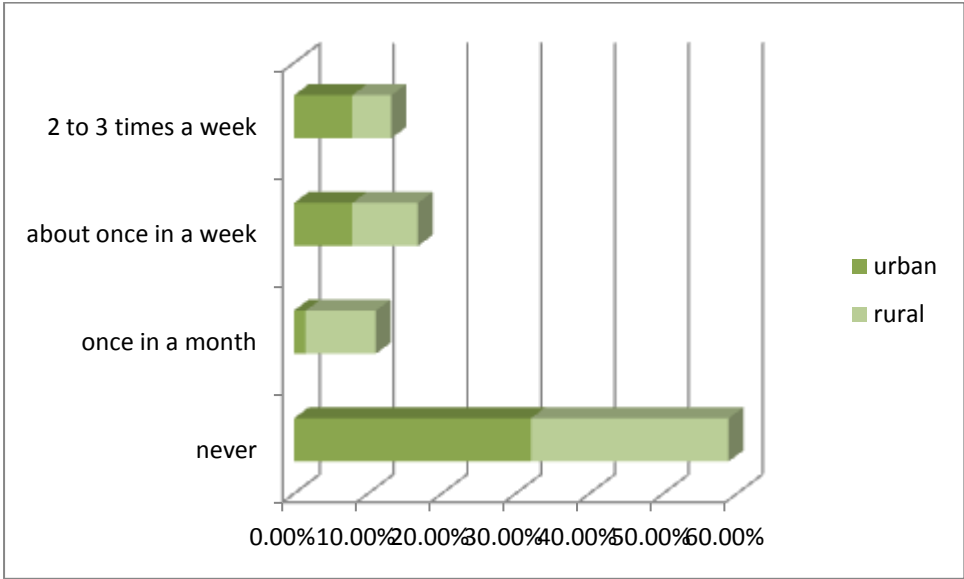
Table no- 4.14.Students locality * students usage Crosstabulation

		students usage				Total	
		never	once in a month	about once in a week	2 to 3 times a week		
students locality	Urban	Count	61	3	15	15	94
		% within students locality	64.9%	3.2%	16.0%	16.0%	100.0%
		% within students usage	54.5%	14.3%	46.9%	60.0%	49.5%
		% of Total	32.1%	1.6%	7.9%	7.9%	49.5%
	Rural	Count	51	18	17	10	96

		% within students locality	53.1%	18.8%	17.7%	10.4%	100.0%
		% within students usage	45.5%	85.7%	53.1%	40.0%	50.5%
		% of Total	26.8%	9.5%	8.9%	5.3%	50.5%
Total		Count	112	21	32	25	190
		% within students locality	58.9%	11.1%	16.8%	13.2%	100.0%
		% within students usage	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	58.9%	11.1%	16.8%	13.2%	100.0%

32.1% of urban and 26.8% rural students never use computer for learning;1.6% urban and 9.5%rural students use once about a month;7.9% urban and 8.9%rural students use once a week ;7.9% urban and 5.3% rural use 2to 3times a week ;no body uses computer daily.

Graph no 4.12 shows usage of computer by urban and rural students



Objective -23 to study the difference in the extent of computer usage between girls and boys students for learning at school

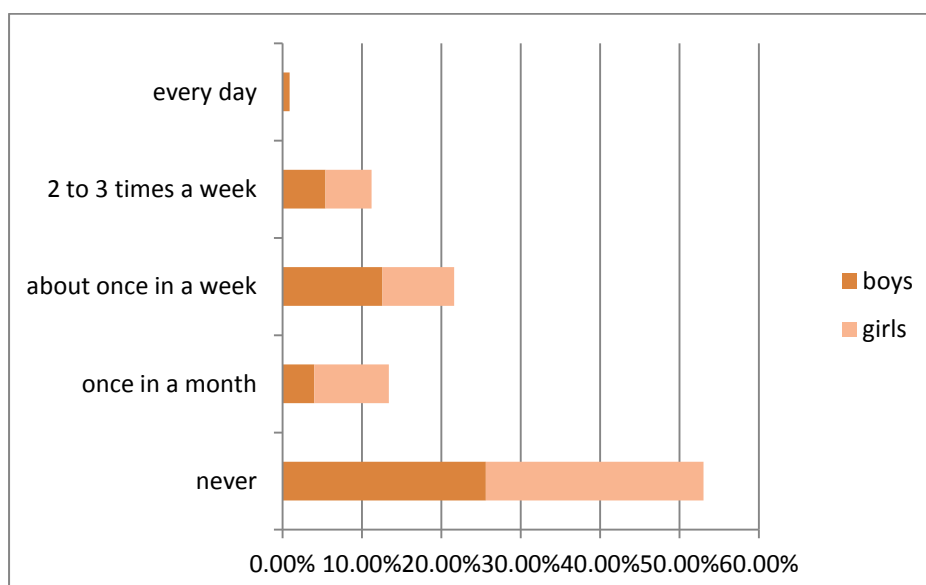
Table-no-4.15.students gender * students usage Crosstabulation

		students usage					Total	
		never	once in a month	about once in a week	2 to 3 times a week	every day		
students gender	boys	Count	57	9	28	12	2	108
		% within students gender	52.8%	8.3%	25.9%	11.1%	1.9%	100.0%

		% within students usage	48.3%	30.0%	58.3%	48.0%	100.0%	48.4%
		% of Total	25.6%	4.0%	12.6%	5.4%	.9%	48.4%
	girls	Count	61	21	20	13	0	115
		% within students gender	53.0%	18.3%	17.4%	11.3%	.0%	100.0%
		% within students usage	51.7%	70.0%	41.7%	52.0%	.0%	51.6%
		% of Total	27.4%	9.4%	9.0%	5.8%	.0%	51.6%
Total	Count	118	30	48	25	2	223	
	% within students gender	52.9%	13.5%	21.5%	11.2%	.9%	100.0%	
	% within students usage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	% of Total	52.9%	13.5%	21.5%	11.2%	.9%	100.0%	

The above table reveals 25.6% boys and 27.6% girls never use computer for learning;4% boys 9.4% girls use once in a month;12.6% boys and9% girls use once in a week;5.4% boys and 5.8%use 2to 3 times a week;no body in girls and boys use computer for learning.

The graph no4.13 shows the usage of computers by boys and girls at school



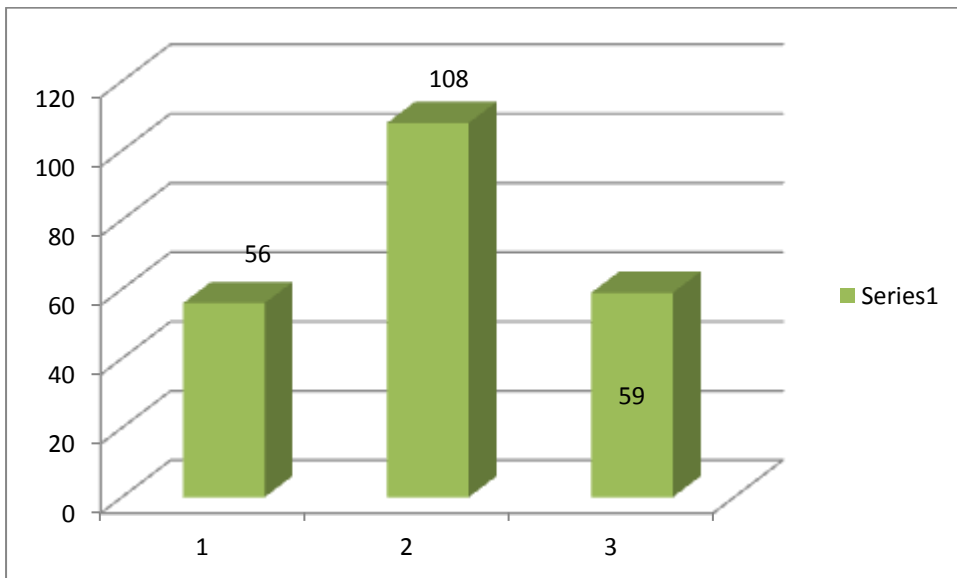
Objective -24 to study the performance of students in operating computer system.

Table no 4.16 showing the no of students categorized as Low; medium; and high in performance

Variable	Range of score	No of students	Level
Performance	0 to 12	56	Low
	13 to 21	108	Medium
	22 and above	59	High

The above table reveals that the performance of, 56 students is low a; 108 students is medium and 59 students is high.

The graph no 4.14 performance of students in computer operation.



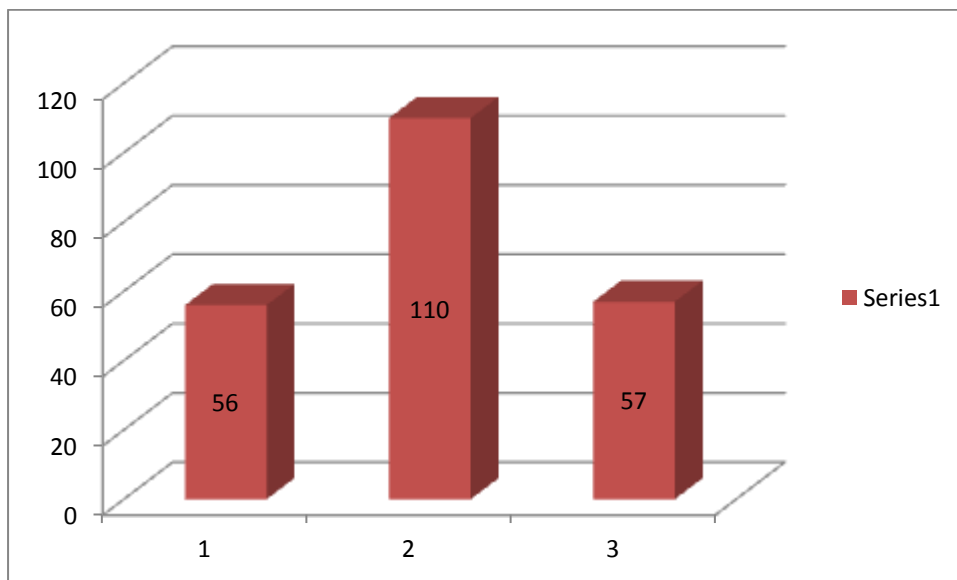
Objective -25. To study the opinion of students about use of ICT in class room

Table no -4.17 shows rating of opinion about use of ICT in teaching

Variable	Range of score	No of students	Level
Opinion	0 to 42	56	Low
	43 to 44	110	Medium
	50 and above	57	High

The above table reveals that 56 students rate use of ICT in classroom as low; 110 student's rate as medium; 57 student's rate as high

The graph 4.15 shows the opinion of students about use of Ict in classroom



Objective 26- to compare the students' performance and opinion based on gender.

Hypothesis No-13.there is no significant difference between mean scores of boys and girls related to performance in operating system and opinion about usage of computers in classroom process.

Table no-4.18 showing the Group Statistics related to Gender

students gender	N	Mean	Std. Deviation	t-value
students performance Boys	108	16.5185	5.75104	0.380
Girls	115	16.8348	6.67797	
students opinion Boys	108	46.1389	4.05905	1.505
Girls	115	45.1043	6.06308	

The above table reveals that the obtained t value of performance 0.380 and opinion t value 1.505 is less than table value 2.57 .Therefore there is no significant difference in the mean scores of performance and opinion of girls and boys. Hence null hypothesis is accepted

Objective 27- to compare the students’ performance and opinion based on locality.

Hypothesis No-14.there is no significant difference between mean scores of rural and urban students related to performance in operating system and opinion about usage of computers in classroom process.

Table No-4.19 showing the group statistics related to locality

students locality	N	Mean	Std. Deviation	t-value
students performance Urban	96	16.4375	5.34851	0.525
Rural	127	16.8661	6.84333	
students opinion Urban	96	43.8958	5.71329	4.283
Rural	127	46.8976	4.38221	

The table reveals that the t value of students’ performance is 0.525 and t value of opinion is 4.283.the obtained t value student’s performance is less than the table value 2.57 .therefore null hypotheses is accepted. But the obtained t value of opinion is less than the table value .Hence the null hypothesis is rejected and alternative hypothesis that is, there is significant difference in the mean scores of rural (46.89) and the mean score of urban students (43.89) is formulated.

Objective-28 to study the extent of computer usage in administration by the headmaster.

Table no 4.20 shows the usage level of computer in administration.

Percentage of usage	Level
26.08	Less
43.47	moderate
13.04	More

The above table reveals that nearly 13.04% headmaster use computer regularly in administration nearly 43.47% use moderately and 26.08% occasionally.

Objective -29 .To study the problems related to use of computer in schools.

90% of the schools reported the following problems and 10% reported that there is no any problem.

- Computers not in working condition
- Power supply problem
- No proper internet access
- As only one lap top is supplied there will be clashes.
- No proper lab maintenance skill
- No software

Objective -30 to compare ability of teacher in integrating ICT with their teaching subject.

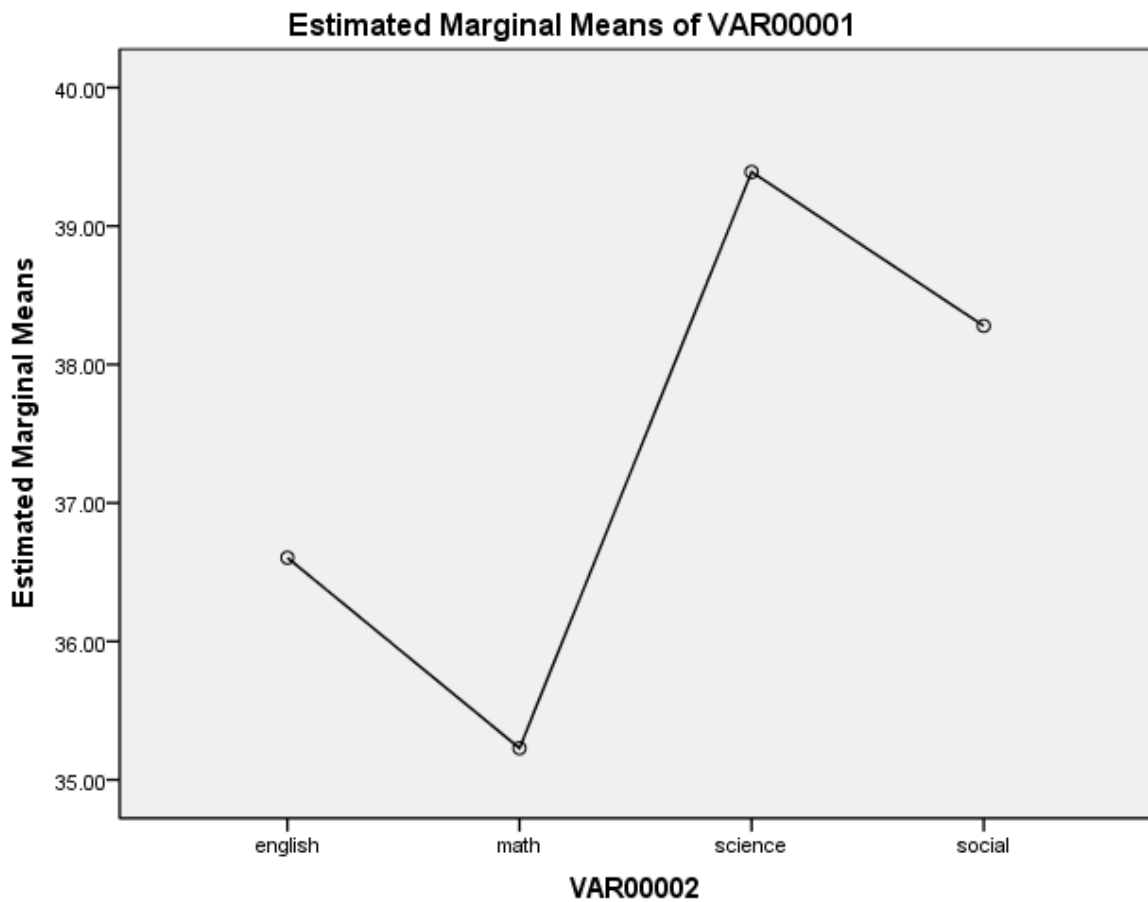
Table no 21 shows the mean score of teachers ability in integrating ICT in lessons

VAR00002	Mean	Std. Deviation	N
English	36.6047	12.46355	43
Math	35.2286	11.63687	35
Science	39.3913	8.76224	46
Social	38.2791	11.10411	43
Total	37.5150	11.02235	167

Table no 22
Tests of Between-Subjects Effects

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	405.65	3	135.218	1.115	.345
Intercept	230849.21	1	230849.21	1904.074	.000
VAR00002	405.654	3	135.218	1.115	.345
Error	19762.058	163	121.240		
Total	255199.00	167			
Corrected Total	20167.713	166			

The above table reveals that there is no significant difference among the secondary school teachers of different subjects related to the ability of integrating ICT with their subject lessons.



Objective -31 .To know the extent of usage of computer in assessment.

Table no 23 shows the usage of ICT in assessment

Sl.No	Extent of usage in assessment	Percentage of teachers
1	Never	28.9066
2	Some times	66.47
3	Always	0.046

The table reveals that nearly 66.47% use computer partially for assessment and only 0.0046 % of teachers use computer regularly for assessment process.

Objective -32.to know the opinion of teachers about effect of assignments of training on their teaching.

Almost all the teachers are of the view that they enjoy doing assignments and activities help to enhance their ICT knowledge.

CHAPTER - V

FINDINGS CONCLUSION AND RECOMMENDATIONS

Today, ICT is a common phenomenon among the society. Everybody acknowledges the importance of ICT in today's life. It is not only about getting

information, but also about learning. Brown (2001) states that computer is an interactive audio and visual technology in which it could enhance the teaching and learning process to be fun, interactive, cooperative as well as effective in imparting linguistic values.

The teachers could use ICT to help them teaching the lesson in which ICT plays the role as the audio visual aids. Besides that, teacher could also use ICT as a subject of the lesson itself, for example in teaching the students how to write an email and other operational skills. The success of training depends on effective implementation at working place.

FINDINGS

The following are the findings of the study.

1. Nearly 32.36% of the teachers having low level of confidence in terms of computer skill and application, 32.94% teachers having medium level of confidence and 34.68% of teachers having high level of confidence.
2. Nearly 30.05% of the teachers have rated low about advantages and disadvantages of using computer, 49.13% teachers have rated as medium and 28.32% of teachers have rated high.
3. Nearly 16.18% of the teachers having low level effect of ICT on teaching, 56.64% teachers having medium and 27.16% of teachers having high.
4. Nearly 26.01% of the teachers having low level in terms of preparedness, 47.97% teachers having medium level and 26.01% of teachers having high level of preparedness.
5. There is no significant difference between male and female teachers in opinion about advantages and disadvantages of using computers in classroom are accepted.
6. There is no significant difference between male and female teachers in the effect of ICT usage on teaching i

7. There is no significant difference between male and female teachers in preparedness is accepted.
8. There is significant difference between mean scores of urban (51.68) and rural (48.65) teachers in developing level of confidence.
9. There is no significant difference between rural and urban teachers in opinion about advantages and disadvantages of using computers in classroom are accepted.
10. There is significant difference in the mean scores of urban (12.44) teachers and mean score of rural (11.72) in effect of ICT on their teaching.
11. There is no significant difference in extent of teachers' preparedness for classroom among secondary school teachers with respect to locality is accepted.
12. There is no significant difference in mean scores of teachers of different taluks in terms of level of confidence .
13. There is no significant difference in mean scores of teachers of different taluks in terms of opinion.
14. There is significant difference in the mean scores of teachers of different taluks in effect of ICT on teaching.
15. There is no significant difference in mean scores of teachers of different taluks in terms of preparedness.
16. Nearly 52.91% of never use computer for learning and nearly 0.008% students use computers every day at school for learning.
17. The performance of, 25% students is low a; 48.43 students is medium and 26.45% students is high in operating computer.
18. 25.11% students rate use of ICT in classroom as low; 49.32% student's rate as medium; 25.56% student's rate as high.
19. There is no significant difference in the mean scores of performance and opinion of girls and boys.

20. There is no significant difference in mean scores of urban and rural students in performance.
21. There is significant difference in the mean scores of rural (46.89) and the mean score of urban students (43.89) in opinion about use of ICT in classroom.
22. Nearly 13.04% headmaster use computer regularly in administration nearly 43.47% use moderately and 26.08% occasionally
23. There is no significant difference in the ability of integrating ICT with lessons among teachers of different subjects.
24. **90% of the schools reported the following problems and 10% reported that there is no any problem**
- Computers not in working condition
 - Power supply problem
 - No proper internet access
 - As only one lap top is supplied there will be clashes.
 - No proper lab maintenance skill
 - No software.
25. The impact of training of training on male and female teachers is same but different on rural and urban in certain aspects.

RECOMMENDATIONS

1. The study findings reveals that Nearly 32.36% of the teachers having low level of confidence in terms of computer skill and application, 32.94% teachers having medium level of confidence and 34.68% of teachers having high level of confidence .Therefore teachers should be subjected to audit test of ICT knowledge with gap analysis, and onsite support or online support to be given to deal with weakest area.

2. Nearly 30.05% of the teachers have rated low about advantages and disadvantages of using computer, 49.13% teachers have rated as medium and 28.32% of teachers have rated high. It is required to investigate the reason for rating low and moderate. ,
3. .Analysis suggests that teacher's preparedness for classroom process is not adequate Therefore it is recommended that measures are to be taken to bring high level of preparedness by proper monitoring and follow up by DIET nodal officer and head teachers.
4. Putting the students at the heart of learning it is emphasized that training to be given to the students regarding computer operation skills and they must be provided with technical instrument for learning at school. Because the findings of the study reveals that nearly 52.91% of students never use computer for learning and nearly 0.008% students use computers every day at school for learning. The performance of, 25% students is low a; 48.43 students is medium and 26.45% students is high in operating computer.
5. New strategic directions needs to be set for school and teachers and common criteria is to be fixed to guide to what extent ICT should be used in schools.
6. One of the most effective ways of embedding a culture within a profession is to deliver a programme of education and training based on ICT skills on entry to the teaching profession.
7. It is highly regretting to find that at present also the problems like
 - Computers not in working condition
 - Power supply problem
 - No proper internet access
 - As only one lap top is supplied there will be clashes.
 - No proper lab maintenance skill

are proving like hurdles in the way of using ICT ,though ICT related initiative started from 1997 under the head Mahithi therfor this type of problems are to be tackled immediately in order to make the programme successful, and it is recommended that good quality equipment are to be supplied, lab maintenance training to be given to the teachers or special lab technicians to be appointed. The study results reveal that ICT is used not regulatly for assessment and administration. Therefore proper teachers to be motivated and compelled to use regularly by proper monitoring and supervision by BEO's,DIET authorities,and DDPI authorities and BRC.

9 Delimitation of the study:

The following are the delimitations of the study:

2. The study is limited to four taluks of shimoga district Karnataka state. .
3. The study is limited to Secondary School which are under TALP IT@SCCHOOLSINKARNATAKA.
4. The study is limited to secondary school teachers in shimoga district.
5. The study is limited to variables like, ‘
6. For teacher ICT use, only computer related devices used in teaching-learning process have been considered.

On the basis of the method of analysis mentioned in this chapter, the related hypotheses were tested to draw inferences regarding the study. In the next chapter the details regarding analysis of data for testing the hypotheses, discussion, interpretation of results and conclusions are presented in detail.

CONCLUSION The present study revealed many results regarding confidence level of ICT skills, opinion about use of ICT, effect of ICT on teaching and frequency of usage of computer in classroom etc..

It is suggested that by considering the findings of this study steps to be taken for the full fledged implementation of the programme TALPIT@SCHOOLS INKARNATAKA. As this programme is initiated with many aspirations to bring quality in education by strengthening the teachers, all concerned persons have to support to realize the objective of the programme. Overall expectation of the researcher is the success of this programme is to be reflected by the performance of the students.

REFERENCES :

Adebaya, E,L, and Adesope, O,M. (2007) Awareness, access and usage of information and communication technologies between female researchers and exteriorizes, *International journal of educational and development*, Vol.3, No.2.

Albion, P. (1999) Self-efficacy beliefs as an indication of teachers preparedness of teaching with technology. *Association for Advancement of Computing in Education*.

Albion, P. (2001) Some factors in the development of self-efficacy beliefs for computer use among teacher education students. *Journal of Technology and Teacher Education*, Vol.9, No. (3), pp-321-347.

Alfred H. Makura. (2014) Students' Perceptions of the Use of ICT in a Higher Education Teaching and Learning Context: The Case of a South African University *Mediterranean Journal of Social Sciences*, Rome-Italy, Vol .5 No .11.

Alharbi Eid (2014).A study on the use of ICT in teaching in secondary schools ,in Kuwaith:Thesis.Phd.Cardiff metropolitan University.

Anderson,R. (2008) Implications of the information and knowledge society for education in J.voogt & G. Knerek (Eds), *international handbook of information technology in primary and secondary education*, New York. Springs. pp.3-22

André du Plessis, and Paul Webb. (2012) Teachers' Perceptions About Their Own And Their Schools' Readiness For Computer Implementation: A South African Case Study.*The Turkish Online Journal of Educational Technology*, Vol.11,No. (3).

Anil Ambasana. (2009) "Utilization of Computer Technology in Remedial Instruction", *Edutracks* , Vol.9, No.4.

Anthony Jones. (2012) Teacher perceptions and use of ICT in unfamiliar classroom situations, *University of Melbourne Australia ICICTE Proceedings 314*.

Antoni Badiaa , Julio Meneses, Carles Sigalésa, and Sergi Fàbreguesa. (2014) Factors Affecting School Teachers' Perceptions Of The Instructional Benefits Of

Basawaraj S(2005). Use of ICT' by secondary school teachers in relation to their Computer Perception, Computer Self-efficacy and Computer Skills.Thesis.Kuvempu university

Dange. Jagannath, K. and Kattimani. Vijayakumar .S. (2014) Development Of An Attitude Scale To Measure Educational Technology Application Of Teacher Educators. *International Multidisciplinary E –Journal / Vol-Iii, Issue-I, Page 9076*

Dede,c. (2000) Emerging influences of information technology on school curriculum.” *Journal of curriculum studies*, Vol.32, N0.(2), pp-281-303.

Enver Tatar. (2013) The Effect of Dynamic Software on Prospective Mathematics Teachers' Perceptions Regarding Information and Communication Technology, *Australian Journal of Teacher Education*, Vol. 38 Issue.12.

Farahiza Zaihan Azizan. (2010) “The Effectiveness of using Internet as a Principal Information Resource in Teaching and Learning Activity in Higher Educational Institutions in Malaysia”, *Proceedings of Regional Conference on Knowledge Integration in ICT*, pp-7-12, www.scribd.com.

Florence Miima, Samson Ondigi and Rose Mavisi. (2013) Teachers' perception about integration of ict in teaching and learning of kiswahili language in secondary schools in kenya. *International Journal of Arts and Commerce Vol. 2*

Gulbahar, Y., and Guven, I. (2008) A Survey on ICT Usage and the Perceptions of Social Studies Teachers in Turkey. *Educational Technology & Society*, Vol.11, No. (3), pp-37-51.

Jaspal Singh (2008) “Perception of secondary school students towards Computer education” *Journal of all india association for educational research*. Vol.20 No3, pp-77-79.

.Kumar,R,(2011)Research Methodology,New York City,NY;Sage publication.

Lawrence,NY;Newyorkcity,Ny;Routledge Falmer,(2004).Social Reseach Method ,London UK;Pearson Education.

MHRD (2000) Sarva Shiksha Abhiyan: A programme for Universal Elementary Education. A framework for implementation, Govt. of India: New Delhi

Survey of ICT for Education In India And South Asia Extended Summary, (2010), Vol.2

UNESCO (2000) Information and Communication Technologies in Education – A Curriculum for Schools and Programmes of Teachers Development, France.

UNESCO (2001) UNESCO Report; Teacher Education through Distance Learning; Technology – Curriculum – Cost – Evaluation, UNESCO.

UNESCO (2012) ICT in Primary Education Analytical survey, Published by the UNESCO Institute for Information Technologies in Education,Volume 1 Exploring the origins, settings and initiatives.

Wanjala Martin.M.S., Elizabeth N.Khaemba and Mukwa Chris. (2011) “Significant Factors in Professional Staff Development for the Implementation of ICT Education in Secondary Schools: A case of schools in Bungoma District, Kenya”, *International journal of Curriculum and Instruction* Vol.8,No.1, pp-30-42.

QUESTIONNAIRE

DISTRICT INSTITUTE OF EDUCATION AND TRAINING, SHIMOGA

THE STUDENTS' QUESTIONNAIRE

SCHOOL: RURAL / URBAN

GENDER: MALE / FEMALE

CLASS: 9TH / 10TH

1. At school on a weekly basis teachers use computers for teaching purposes.

Time	English	Mathematics	Science	Social Science
Never				
Once a month				
Once a week				
Every day				

2. At school on a weekly basis I use computer for learning purpose.

1. Never.
2. Once a month.
3. About once a week.
4. Two to three times a week.
5. Every day.

3. Performance Test

Each activity carries 5 marks.

Sl no	Activity	1	2	3	4	5	6	7	8	9	10
1	Switch on the system/ laptop										
2	Open a file in Microsoft word/excel/PowerPoint										
3	Identify the functions of different keys.										
4	Brows internet										
5	Lookup for information										

4. Your opinion about using computers

To what extent do you agree or disagree with the following statements

Sl no	Statements	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
1	I enjoy lessons with a computer					
2	I feel comfortable working with computers					
3	I believe that the more often teachers use computers the more I enjoy					

4	I am tired of using a computer					
5	I have better information source than ICT					
6	ICT is very helpful in my learning process					
7	Computers scare me					
8	Computers are difficult to use					
9	I find it more time consuming using Ict in learning					
10	I know how to use Ict but am not using it for learning					
11	Working with computers makes me nervous					
12	I wish ICT was not used in teaching					

DISTRICT INSTITUTE OF EDUCATION AND TRAINING, SHIVAMOGGA

Questionnaire for Teachers

1. How would you rate your confidence level in terms of the computer skill or application?

Sl No	Confidence Level	Very unconfident	Not confident	Unsure	confident	Very Confident
1	Basic s of operating PC					
2	Manging Files					
3	Using word processors					
4	Use spread sheet					
5	Using PowerPoint					
6	Deleting editing pictures					

7	Internet browsing					
8	Searching information on internet					
9	Down loading from internet					
10	Using E mails					
11	Using chat rooms					
12	Publishing a personal blog					
13	Using assistive technology tools					

2. Opinion about advantages and disadvantages of using computer in your teaching.

Sl no	Statement	Strongly agree	Agree	Neither Agree Nor disagree	disagree	Strongly Disagree
1	I find it easy to think of ways to use computers in my teaching					
2	ICT makes teaching more interesting for me					
3	ICT makes my lessons more diverse					
4	ICT decreases students' motivation					
5	ICT improves the presentation of material in my lesson ICT makes preparing my lessons quicker					
6	ICT makes preparing lessons more difficult					
7	ICT makes the lessons more fun for the students					
8	ICT makes lessons more difficult to control the class					
9	ICT often prevents teaching because of interruption in work or in soft ware					
10	ICT has given me more confidence to extent my use of computers to other topics					

3. When you use ICT in teaching in what ways does this effect you as a teacher?

Sl no	Statement	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
1	ICT enhances my role as a teacher					
2	ICT positively changes the learning climate in my classroom					
3	ICT positively changes the relationship between me and my students					

4. PREPAREDNESS

1). Subject related videos created by you, Specify the number.

1) None. 2) One. 3) Two. 4) Three. 5) 4 and more.

2) Subject related Videos shared and down loaded by you, specify the number. Please mention the source

1) None. 2) One. 3) Two. 4) Three. 5) 4 and more

3) Images or pictures related to your teaching subject, created by you,

Specify the number.

1) None. 2) One. 3) Two. 4) Three. 5) 4 and more

4. Subject related images or pictures related to your teaching subject shared or downloaded by you. Specify the number. Please mention the source

1) None. 2) One. 3) Two. 4) Three. 5) 4 and more

5. subject related presentations created by you, specify the number.

1) None. 2) One. 3) Two. 4) Three. 5) 4 and more

6. Subject related presentations shared or downloaded by you, specify the number. Please mention the source.

1) None. 2) One. 3) Two. 4) Three. 5) 4 and more

5. ASSESSMENTS.

Usage in assessment process

Sl no	Task	Never	Some times	Always
1	Preparation of question paper			
2	Given Ict based project work			
3	Marks list			
4	Analysis			

6. Assignments

Have you completed the assignments?

Whether the assignments are assessed?

Grading achieved?

Sl no	Statement	Very much	Average	Not at all
1	Did you enjoy doing assignments?			
2	Did you feel difficult to complete			

	the assignments?			
3	Did the assignments helpful in strengthening you professionally?			
4	Do you feel that doing assignments is waste of time?			
5	Do you feel that assignments are helpful in developing ICT skills?			

QUESTIONNAIRE TO THE HEAD OF THE INSTITUTE

Administration

Sl no	Usage	Never	Sometimes	Every time
1	Official communication using email.			
	a. With offices			
	b. Teachers.			
2	Documentation of school activities.			
3	Shared content created,			

	programmes etc. about your school to any website.			
4	Students' information.			
5	Teachers information.			

Do the teachers use Ict regularly in class room process?

Any problem related to usage of Ict in schools.

DISTRICT INSTITUTE OF EDUCATION AND TRAINING

Lesson observation format

Class:-----

Topic:-----

Teacher:-----

ICT tools Used

1. Geogebra
2. Phet simulation
3. Audio
4. Video
5. YOU TUBE
6. Presentation
7. Simulation
8. Others

Read the statements below and decide to what extent they correspond to the characteristic of the ICT tools

Characteristic	Max marks	Marks obtained
1. The content ict tool is apt to the teaching competency.	05	
2.The content is adequately organized and interesting.	05	
3.The content is presented in a clear and objective manner .	05	
4.The information is of sufficient scope and depths	05	
5.Is relevant to the users age group	05	
6.The content is presented in logical manner	05	
7.the content is structured in a clear manner	05	
8.Illustrations are attractive and useful	05	
9.Aims at applying knowledge not at memorizing mechanically	05	
10.The topic is illustrated with suitable picture and diagram	05	
Total	50	

Signature of Observer:

