CHAPTER 7

SUMMARY AND CONCLUSION
Summary

In the last section of our research describe short summary of our present research scenario. Education is important aspect of every person life and no anyone can improve their life style and enhance power of mind without education. Basically Object Oriented Programming is useful to real time in our life style of every user’s. Education can give smart finishing to our innovative skills. In this research we describe what difficulties in Object Oriented programming occurs to students or learners in their education scenario and used computer based E-learning technology to overcome these difficulties from rural and urban education of Object Oriented Programming.

Chapter 1: Introduction of Object Oriented Programming

In the beginning of research we describe the object oriented programming introductory part. The research point of view the users or learners are the new comer to learning Object Oriented Programming that concepts are useful to understand Object oriented programming. In our research we trying to cover overall difficult concepts of Object oriented programming. These difficulties we mention in following chapters. In this chapter we cover the basic concepts of OOP that use to understand the difficult concepts. We all know that every point has some correlation with each other that is the main reason we giving the basic concept in this chapter. This chapter covers the following concepts that useful to learners that have basically procedural background.

- Object Oriented
- What actual understanding and teaching problem occurred?
- Procedural vs Object Oriented Programming
- Moving from procedural to Object Oriented Programming
- What is object?
- What is class?
- Object Oriented Programming
In above chapter we mention that all basic aspect object oriented programming. For that we started from procedural programming and then how moving to object oriented programming. Also explain the brief concept of inheritance in above chapter. The overall chapter concluded that the basic principles are useful to procedural background learners or students.

Chapter 2: Literature review

The present research based on Object Oriented Programming difficulties and to overcome these difficulties to use E-learning technology. The study of literature review support to show existing research strategy and what will be drawbacks of that research. Internet is best source for preparing literature of review and finding appropriate information about research topic. For solving learning difficulties in rural and urban area colleges that learning Object Oriented programming education, we study the existing research work on related topics. Our propose research are the combination of two areas problem based and solution based. In problem based area include difficulties of Object oriented programming and educational aspect and we give solution for that problem using computer science aproach. Our topic is based on computing and E-learning is also internet based tools.

Chapter 3: Study of E-Learning

In this chapter we mention about e-learning technology. The chapter is corelated to our rsearch because the difficulties arises to students in Object Oriented Programming that overcome with the use of learning these concepts using E-learning based technologies like virtual class room, computer based software learning and also online learning. The present rsearch is work on e-learning terminolgy that help students to learn easily object oriented programming to contrast traditional learning. The chapter covers the followoing essential points to learn easily using advance technology.

- E-learning
Chapter 4: Analysis of difficulties in OOP & to Study understanding problem of OOPs to student and teachers

In current chapter we analyze all difficulties in object oriented programming and study understanding problem of Object oriented programming to students and teachers. We know that some concepts of object oriented programming create trouble to student or learners that learn object oriented programming in curriculum or real time. The study of exactly what problem of Object oriented programming occurs to students, learners and teachers. We saw that many of users face the problem to understand OOP principles. The chapter contain all principles of OOP and difficulties occurs concepts. The following points elaborate in above chapter as follows

- Difficulties in OOPs
- How to Hide Data
- How learn to program understanding by students
Chapter 5: Research methodology:

Research methodology is a systematic way to resolve a trouble and it is true aspect we cannot successfully reach to our research destination without methodology. Research methodology is steps to reach from our research destination and fulfil objective of research it is also explain as the preparation of methods by which knowledge is acquired. In present research we describing types of research and there methodology and also define objective of our research. In research methodology we design systematic process flow of our current research it includes following steps.

a. Formulating the research problem andintroductory concepts
b. Extensive literature survey
c. Introduction to e-learning
d. Assessment of student
e. Find learning difficulties in OOP
f. Collect colleges wise data
g. Analysis of data
h. Implementation of computer based E-learning architecture or technology to overcome difficulties
i. Result and conclusion.
Chapter 6: Searching of Research

In this chapter we can doing survey of 20 colleges that having to learn Object Oriented Programming in dhule district.

- In our research we can implement to applying assessment test in each college to find what learning difficulties occurs to students and teachers.
- In our research the colleges are divide in two regions rural and urban to equal parts.
- We can done sampling of 500 students in two equal parts rural and urban. We divide 10 colleges for rural area having 250 samples and 10 colleges for urban area having 250 samples.
- We found the folowing ratio of infrastructural difficulties that indicates current situation of colleges.
- We finding this infrastructural problems using infrastructaral accessment.

In the phase of finding difficulties in infrastructre we found some critical points as mention in follwing figure. In that infrastructure assessment we consider the poits belongs to computer lab, E-learning tools,building assessment, availability of teachers, condition of lab, facility, avialability of computer based learning and teaching tools. The overall infrastructure create the environment for students to craze aboout learning difficult concepts with the utilization of effective tool that we needed for our purpose. The building infrastructure, facility, availability of teachers, sports tools, teaching tools, condition of lab, implementation of e-learning, availability of assistive e-learning tools for students and availability of computer based learning are the major factors in infrastructure presentation.

In our present research the above following table-38 show the statistical report in rural area for different colleges. The students having lots of difficulties in OOP that have been shows in our research and giving solution to overcome these difficulties using the E-learning technology.

From that result of different college we calculate overall rural area percentage of difficulties in object oriented programming principles. The difficulties occur students are calculated with the use assessment in different colleges.
Fig-55: Infrastructure Ratio

The following table shows overall percentage ratio of colleges.

<table>
<thead>
<tr>
<th>Total Students</th>
<th>Questions Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>Which question facing more difficulties (%)</td>
<td>30%</td>
</tr>
</tbody>
</table>

Table-38: Overall Percentage for rural area
The following chart shows the clustered column structure of rural area college’s percentage wise statistical report using chart. From the calculation of overall colleges result the average percentages of difficulties near about 40% students having difficulties in OOP.

![Difficulties to total student in Rural area](image)

**Fig-56: Difficulties to total student in rural area.**

In our present research the above tables show the statistical report in urban area for different colleges. From that result of different college we calculate overall urban area percentage of difficulties in object oriented programming principles.

The following table shows overall percentage ratio of colleges.
<table>
<thead>
<tr>
<th>Total Students</th>
<th>Questions Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>Which question facing more difficulties (%)</td>
<td>43%</td>
</tr>
</tbody>
</table>

Table-39: Overall Percentage for urban area

The students have occurring difficulties in object oriented programming that we calculate total students in different colleges in our research from the urban area. The following pie chart shows the average of overall college percentage wise difficulties to student in OOP in urban area. In our research we are finding the difficulties in object oriented programming to particular students in the field of programming that must student, teachers and learners having facing the problem in difficulties object oriented programming.

- We are select two areas rural and urban area.
- The most finding difficulties in the rural area than compared to urban area due lack of resources.
- The problem solving technique is E-learning method or tools to teach these directly on the practical basis that is online or virtual class room learning.
- The E-learning technology can be building the module to teach by offline or online on desktop.
- The effect of teaching OOP using E-learning techniques is beneficial to all types of users
- The pie chart as follows for urban area.
Research Significance for general society

Our research mostly divided into two two areas rural and urban area. Our current research will be beneficial to general society in rural as well as urban area and also enhance their Object Oriented programming technique in real life style. Now days government can be start various computer educational schemes for developing literate rate of country in Object Oriented Programming difficulties. But problem of proper resource mainatnance are faced each colleges in rural area. Our reserch can improve and give modern approach and enhansive way to implement computer based E-learning system for solution.

This propose computer based system provide easy method and software tools for student those having difficulties in understanding OOP concepts and those
student are not properly interpretate word. This software tools can help to slow learner and improve their ability to adopt and improve educational content through online study. After the utilization of this type of E-learning framework technology in curriculum to learn these concepts using that technique to overcome difficulties arises to students in rural and urban area. This all significance are useful to student having poor in OO programming. This propose framework improve quality of institution and also reduce the investment for storage and resources. This computing model are usefull to faculty in colleges, school, through this model staff will be easily update their own knowledge and also learn new software tools and enhance their teaching methodology.

The given research helpful to parents also take notes from online through this tools to learn himself and preparation of student using laptop or mobile. This enhancive computer model can provide assistive software through mobile devices. The student are easy to learn educational content anywhere any time or any place when needed concepts. Using this framework technology syllabus and educational content can be provide equivalent every where and quality of teaching and learning will be same everywhere. The government also refer to study about Object Oriented Programming principles using E-learning technology in analytical point of view for students having difficulties in OOP.

**Conclusion**

The present research give new enhance methodology to improve rural and urban education in prograhmming and solve the learning difficulties of student in Object Oriented Programming (OOP). Using the the computer based e-learning features in education, we provide cost effective feasible learning soloution to rural and urban area colleges. This present research can explore and modernarize traditional learning system it reduces the cost of education and increse the quality and openness of education. The research are trying showing the OOP principles and difficulties and to how to overcome these difficulties. This research are very important to undeveloped rural areas and improving literacy of students about Programming languages. The research contain the E-learning technology methods and how to use e-learning technology in teaching and learning. The research are useful to new comer in programming language learning and the student having procedural background
that types students help our research to understand easily OOP concepts. The research is useful for those users who are not knowledge about E-learning. This research is very useful to our country to developed education system and solve the hurdle in rural and urban education about Object Oriented Programming difficulties.

**Future Scope**

Now days if government of india can implement this computer based E-learning in rural and urban education it convert traditional learning of Object Oriented Programming (OOP) approach into modern learning with cost effective manner. This research will give new advance vision to traditional learning of OOP and also reduce the cost of quality education and also provide the facility of anytime anywhere learning. Now a days government can doing large investment for providing quality education but our research will be reduce government educational expence and also provide quality education through computer based E-learning to overcome difficulties in OOP to students, teachers or learners. After implementation or utilization of this type of framework technology in educational institution or university ; government easy to provide educational schemas and facility through network and also maintain educational equality in all over country. Following area the feature scope of our research.

a. To transfer the traditional learning method into advance E-learning approach

b. Scope of our research is very broadly useful for students, teachers and developers.

c. Our research is helpful for structured oriented programming background students.

d. Our research can solve the problems faced by colleges.

e. With the use of our research, students can learn all concepts of object oriented programming.

f. We will give all possible analysis of difficulties object oriented programming.

g. Reduce the cost of quality education

h. Facilitate the student who has learning difficulties in OOP

i. Provide assistive tools and software through poor understanding studnets in OOP and E-learning
j. Student, faculty, colleges and educational institutions are interconnected with each other.

k. Motivate the student using E-learning through multimedia

l. Reduce the E-learning expense of colleges, school or institution and government.

**Limitation**

The success of every research will depend upon their benefits for general society but every researcher faced problems of limitation and major drawbacks. In presence research faced following limitation that can be decreases large effectiveness of propose research. Propose model is based on E-learning that is online learning and difficulties OOP programming learning using E-learning is internet based technology. But in many rural areas there are not network or very poor network bandwidth. Some important limitation of our propose research are as follows.

a. The present research has some limitation that affect and restrict the future phenomenon of present research.

b. The present research required high bandwidth of network

c. To poor awareness of student with E-learning tools

d. We mentioned all over OO programming concepts but some of them not cover by our research.

e. Our research had some limitation because E-learning based on internet facilities.

f. Some problem arises to have no knowledge about internet resources.

g. Structured oriented programming background users facing problems.

h. This learning process only provide educational content for exam base study but do not punish and control student who has bad habit and behaviour.

i. Less interaction of student with trainer or teachers

j. Due to failure of machine will cause learning process upto its recovery recommended

**Propose Research Recommendation**

This present propose research is done for developing rural and urban area students having difficulties in learning Object Oriented Programming through the E-
learning technology. This propose research is done for developing strategy of rural education and enhance cost effective methodology of learning different student through E-learning tools for effective utilization of problems. This research will help to country for developing educational poority in Programming like OOP and growing literacy rate in Programming of rural and urban india. In future enhancement we can recomend this research on the front of new researcher having craze about developing of rural or urban education development in another different programming technologies. Our research is helpful for teachers and learners of OOP. Now day government can broadly contribute in educational sector in india and also launched many skill development program for rural as well as urban area poor student in OOP learning education. But this propose research framework can reduce the cost of effective education of OOP and also student having difficulties in OOP can learn just like normal student. The major different outcome of propose research is divided into multiple sections like learning difficult in OOP students through E-learning, trainer, institution, university, educational teams and Object Oriented Programming learners. Everyone can access the benefits of propose research. Our research will be benificial to our country to develop rural and urban education development in Programmers through E-learning like OOP, C++, java etc hope so. Computer based E-learning framework or tools are inovative approach to represent benefits of computing through educational environment to different students who learn Object Oriented Programming, teachers or leaners.

**Propose Research Experience**

The every person can doing research at every day but this reserch strategy are tactical for solving day today problems in their real life. Research can be building or developing inovative powers of mind and motivate to invention of some new things. When we start our research first we observe difficulties in understanding learning Object Oriented Programming(OOP) educational problems in our district area and decide to make reserch for improve learning understanding OO Programming in curriculum to students having different educational methodology or technologies like E-learning in our dhule district. Normally students in rural and area are easy to learn educational concept but programming like OOP concepts have faced difficulties to learn. I also face the problem of understanding OOP when studying in 12th and graduation. That things motivate to me for doing research for student with
learning difficulties to understand OOP and I feel very great experience to do research on rural and also in urban area educational institutions. I hope an recomended to our propose research and invention, it is very useful and inovative concept to enhance and development in understanding OOP problems educational environment in rural and urban area. When we collecting and analysed data of research many persons can help to me for doing reserch to giving feedback in the form of information regarding we needed. The importatnt maotivator to me, Our guide can be  give valuable guidance and motivation to doing research. I can fill great experience when doing research as a part of researcher. Finally at the end of our research I hope our research will be helpful to our district, state and country and this contribution can generate new enhancive approach to give new vision to rural and urban society in OO Programming and E-learning and also improving student intrest in education through the new technology like E-learning.