CHAPTER V

SUMMARY FINDINGS AND CONCLUSION
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CHAPTER V
SUMMARY FINDINGS AND CONCLUSION

5.0 Summary of the Study

Over the last 30 years, research in the field of education has provided teachers with more information about effective interventions and strategies for students with disabilities. Current trends in education are moving toward more inclusive educational experiences for children with disabilities, alternative learning styles, and differentiated instructional practices to support all students to succeed (Yell & Katsiyannis, 2003). As more and more special needs students are being mainstreamed into general education classrooms, teachers are faced with the difficult task of meeting their specialized needs, while still providing a challenging experience for all students in the class.

India is a signatory to the Salamanca Statement and Framework for Action on Special Needs Education (1994) that emphasizes access to quality education for all. Effective teaching skills consist of high levels of student engagement based on good classroom and time management skills; the ability to scaffold learning that is adapted to students' current levels of understanding; cognitively engaging students in higher-order thinking; and encouraging and supporting success.

Teachers themselves are an essential component to ensure the quality of students’ inclusion in the school environment. Teachers have direct interaction with students and play a critical role in determining students’ experiences in the classroom on a daily basis. Special attention must be paid to ensure that classroom teachers have the skills and support needed to provide quality education to children with diverse learning needs. In this context, efforts should be made not only at pre-service, but also at in-service level of training to the school teachers.

The researcher has given her little contribution in the field of training in Inclusive Education. The program developed is a knowledge based program that definitely gives guidelines regarding identifying, and treating the differently abled students in the inclusive classrooms. It is completely a self-instructional design program. It is based on theory of social constructivism. The purpose of the research
is assessing the inclusive practices, developing a program in Inclusive Education for teachers, and study of its effectiveness.

5.1 Background

Inclusion in education is basically the philosophy of confining a special student only within the general classroom setting. It is believed that through this process, disability students will have more opportunity to make friends, get along with other students, and develop cognitive skills and self-esteem better. Through this, disability students will not feel they are being isolated, but instead, will feel accepted for what they are. But the concept of inclusion also has many critics that question its effectiveness. Until now, there is still a great debate on whether inclusion should be applied to all schools.

The overall goal of inclusive- and child friendly education is developing educational settings where all learners are welcome, participating and treated equally. Inclusive- and child friendly education is defined as a process of addressing and responding to the diversity of needs of all learners and of reducing exclusion within education system, while focusing on enrolment, effectiveness, diversity (including gender), health, and active involvement of parents and communities. Inclusive- and child friendly education is concerned with providing appropriate responses to the broad spectrum of learning needs in both formal and non-formal educational settings. It advocates for changes and modifications in content, approaches, structures, policies and strategies. At the heart of inclusive- and child friendly education is the vision to transform the education system so it can provide responsive quality education for all learners. Thus we as teachers, parents, teacher-educators, have to facilitate the implementation of inclusive education not only as a program but also as an ideology.

5.2 Importance of the Research

Survey of various studies conducted on inclusive education in India & abroad helps to understand more about inclusion & its importance today. It clearly emphasizes how important the role of school and teacher is, in dealing with inclusion, and making it successful. Preparing teachers to teach in inclusive
settings is essential, if our schools are to truly teach all students in inclusive, collaborative and diverse settings.

Present Research focuses on present situation of the schools regarding inclusion of differently abled students. It also gives clear-cut idea about barriers faced by teachers in implementation of strategies necessary for successful inclusion.

5.3 Title of the Research

Inclusive practices in urban and rural schools in Pune- A study.

5.4 Statement of Problem

To study the physical resources available in urban and rural schools in Pune with respect to inclusion of differently abled students.

To study the human resources available in urban and rural schools in Pune with respect to inclusion of differently abled students.

To design, develop and test the effectiveness of a Knowledge Based Program in Inclusive Education (KBPIE) for school teachers.

5.5 Operational definitions

1- Study: (Conceptual definition) a survey: a detailed inspection, an investigation and analysis of a subject, situation, etc.

1 Study: (Operational Definition) a survey: a detailed inspection, of physical and human resources in urban and rural schools in Pune for comparison of inclusive practices.

2-Inclusive Practices (Conceptual definition)

Practices with a common mission of inclusion that emphasizes learning for all students regardless of Different abilities (http://www.inclusion.com)

Inclusive classroom practice is about:

- Identifying educational needs
- Making adjustment to suit the school context
- Planning, teaching and reporting so that appropriate adjustments ensure success
• Working together. This includes parents/caregivers, teachers, learning support teams, school administration, district based personnel, visiting teachers and representatives from other agencies.

• Being flexible. This means investigating creative ways to teach, organize, support and learn. Flexible resourcing is more than the appointment of additional teacher and or education assistant time. It is about identifying specific needs and then organizing specific resources. (http://www.inclusion.com)

**Inclusive Practices (Operational definition)**

Inclusive practices is about –Physical resources and Human resources-

• Modifications in infrastructure for inclusion of differently abled students.

• Essential material for inclusion of differently abled students.

• Technological support required for inclusion differently abled students.

• Availability of special teachers, Para-teachers, and counselors required for inclusion differently abled students.

• Knowledge and acceptance and attitude of teachers for inclusion differently abled students.

3- **Inclusion**

Inclusion means that all students in a school, regardless of their strengths or weaknesses in any area, become part of the school community.

4- **Urban Schools**

All the English and Marathi medium schools situated in Pune city.

5- **Rural Schools**

All the English and Marathi medium schools situated outside Pune city and are in Pune district.

6- **Physical resources:**

The Resources in urban and rural schools in Pune that include, necessary infrastructural modifications, essential material, and technological support required for inclusion of differently abled students.
7- Human resources:
The Teachers, principals and Para teachers working in urban and rural schools in Pune, and the study of human resources (teachers) regarding their knowledge and acceptance, and attitude about inclusion of required for inclusion differently abled students.

8 – Knowledge:
Knowledge of teachers in urban and rural schools in Pune, about inclusion of differently abled students, with respect to the following aspects;

- Knowledge about Various aspects of Education
- Knowledge about differently abled students
- Concept and Categories of Different abilities
- Efforts by various Countries to support Inclusion Legally
- Various strategies of Inclusion

8- Attitude- (Conceptual definition)
An attitude is "a relatively enduring organization of beliefs, feelings, and behavioral tendencies towards socially significant objects, groups, events or symbols" (Hogg & Vaughan 2005, p. 150)

Attitude- (Operational definition)
Attitude of the teachers in urban and rural schools in Pune about inclusion of differently abled students.

Higher Primary Teachers- Teachers teaching the students of higher primary classes.

Definitions of Key Terms
1-Inclusive Education:
“Inclusive education means that all students in a school, regardless of their strengths or weaknesses in any area, become part of the school community.”
Inclusive education is defined by UNESCO as a process of addressing and responding to the diverse needs of all learners by increasing participation in learning and reducing exclusion within and from education.

2- Differently abled- means students of different ability levels, emotional and attitudinal make up and of varying physical characteristics that includes,
Cognitively Exceptional Children, Physically Exceptional Children. (Chintamani Kar, 2003)

3- Visually Impaired- “The term ‘visual impairment’ is used to describe any kind of vision loss, ranging from someone having no sight at all to someone who has partial vision loss. People who are legally blind having some vision, but have lost enough sight that it require them to stand 20 feet from an object to see it as well as someone with perfect vision who could see it 20 feet away.”(Ysseldyke J.,Algozine B.2009)

4- Hearing Impaired- Hearing impairment is defined by IDEA as “an impairment in hearing, whether permanent or fluctuating, that adversely affects a child’s educational performance. “Deafness is defined as “a hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification.”(IDEA, 1990)

5- Learning Disabilities- A disorder in one or more of the basic psychological processes involved in understanding or in using language spoken or written which may manifest itself in an imperfect ability to listen, think, speak, write, spell, or to do mathematical calculations.”

6- Orthopedically Impaired-Orthopedic Impairment," is one that includes impairments caused by congenital anomalies such as absence of a member, clubfoot, impairments caused by disease such as bone tuberculosis, poliomyelitis, or impairments for other causes to include amputations, fractures, cerebral palsy, burns, or fractures.

7- Gifted students: means students, children, or youth who are identified at the preschool, elementary or secondary level as possessing demonstrated or potential abilities, that give evidence of high performance capability in areas such as intellectual, creative, specific academic, or leadership ability, or in the performing or visual art & who thereof require services or activities not ordinarily provided by the school. ( Ysseldyke J. E., Algozine B., page-211)

8- Mentally Challenged-“Intellectual impairment means significantly sub average general intellectual functioning which exists concurrently with deficits in adaptive behavior and manifested during the developmental period that adversely affects a student's educational performance” (34 CFR, Ch. III, Sec. 300.7,2012).
5.6-Objectives of the Research

1- To assess the Physical and Human Resources in urban and rural schools in Pune with respect to--
   
i. Modification in infrastructure for inclusion of differently abled students.
   
ii. Material essential for inclusion of differently abled students.
   
iii. Technological support required for inclusion of differently abled students.
   
iv. Availability of Human Resources for inclusion of differently abled students.
   
v. Knowledge, Acceptance and attitude of teachers in urban and rural schools in Pune with respect to inclusion of differently abled students.

2- To compare the Physical and Human Resources in urban and rural schools in Pune with respect to inclusion of differently abled students.

3- To develop and test the effectiveness of Knowledge Based Program in inclusive education (KBPIE) for teachers in urban and rural schools in Pune.

5.7-Assumptions:

- All the Teachers have knowledge about inclusion.

- It is assumed that all the teachers have honestly responded to the questionnaire questions.

- It is assumed that all the experimental subjects have accurately and honestly responded to the pretests and posttests.

- Inclusive practices can be improved through Knowledge and proper training.

5.8 Research questions

For objective 1

i. Are the physical resources in school catering for inclusion of differently abled students?

ii. What sort of technological support is available in the school for inclusion of differently abled students?
iii. How adequate are the available learning and teaching materials in the school for inclusion of differently abled students?

iv. What sort of human resources are available in the schools to cater the needs of differently abled students?

v. What is the current status of training of the school teachers with respect to inclusion of differently abled students?

vi. What are the knowledge levels of school teachers about inclusion of differently abled students?

vii. What is the attitude of teachers regarding inclusion of differently abled students?

5.9 Hypothesis: - The research conducted will make use of survey and experimentation.

Research Hypothesis:

Knowledge and acceptance level of the teachers is increased after implementing the Knowledge Based Program in Inclusive Education.

The hypothesis to be tested for survey will be as follows- Null Hypothesis

\( H_01 \): There will be no significant difference in knowledge of teachers in urban and rural schools with respect to inclusion of differently abled students.

\( H_02 \): There will be no significant difference in attitude of teachers in urban and rural schools with respect to inclusion of differently abled students.

The hypothesis to be tested for experimentation will be as follows-

\( H_03 \): There will be no significant difference in knowledge and acceptance level of teachers about Inclusive Education before and after the implementation of Knowledge Based Program in Inclusive Education.
5.10 Scope of Research

The coverage of this study is English and Marathi medium, urban and rural schools in Pune district.

The survey is regarding physical and human resources for inclusion of differently abled students. The program developed consists of all the essential factors that give knowledge and information regarding successful inclusive Education, using social constructivism, collaborative teaching-learning, self-learning, and use of technology.

5.11 Delimitations of the Research

1. The study will be delimited to schools situated in Pune District.
2. The study will be delimited to the examination of school teachers’ knowledge and attitude about Inclusive Education only.
3. The development and implementation of the Knowledge Based Program in Inclusive Education (KBPIE) is delimited to six important aspects – Hearing Impaired, Visually Impaired, Learning Disabilities, Orthopedically Impaired, Mentally Challenged, and Gifted.
4. The implementation of the Knowledge Based Program in Inclusive Education (KBPIE) will be delimited to the schools where technological support is available.
5. The KBPIE program developed is concerned with Human resources only
6. The present research is delimited to school teachers teaching for Higher Primary Schools.

5.12 Limitations of the Research

1. The impact of school teachers IQ, Interest in learning, age, experience of teaching has not been considered.
2. The effectiveness of Knowledge Based Program in Inclusive Education (KBPIE) is based on the responses given by school teachers of Higher Primary Schools.
5.13-Theoretical Base of the Study

This research gives an idea about how constructivist, especially social constructivist approach (Vygotsky, 1978) will help the teachers to create an inclusive classroom environment for differently abled students. It shows effective application of the principles of social constructivism, cooperative learning and collaborative learning. It makes use of innovative techniques of ICT. Technology is extensively used in the program.

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Theory/Aspects</th>
<th>Reference/theorist</th>
<th>Use in Present Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Inclusive Education</td>
<td>(United Nations Educational Scientific and Cultural Organisation (UNESCO), 1994:11)</td>
<td>Assessing inclusive practice,</td>
</tr>
<tr>
<td>2</td>
<td>Social Constructivism</td>
<td>Vygotsky (1962, 1978)</td>
<td>Basis of KBIP</td>
</tr>
<tr>
<td>3</td>
<td>Kemps instructional system design model</td>
<td>Jerold Kemp</td>
<td>Product development stage</td>
</tr>
<tr>
<td>4</td>
<td>Informal and group based Cooperative learning</td>
<td>John Dewey and Kurt Levin(1930-40)David and Roger Johnson(1975),</td>
<td>For delivering instructions of KBIP</td>
</tr>
<tr>
<td>5</td>
<td>Collaborative networked Learning</td>
<td>Findley (1987)</td>
<td>Program in Inclusive Education</td>
</tr>
<tr>
<td>6</td>
<td>VAK model based on experiential learning</td>
<td>Neil Fleming</td>
<td>Program in Inclusive Education</td>
</tr>
</tbody>
</table>
5.14 - Significance of the Research

Preparing teachers does not simply mean providing prospective teachers with inclusive education skills; it is important to provide training and support for existing teachers as well. Building the capacity for inclusive education must include awareness raising activities as well as integrated pre-service and in-service teacher training programs to ensure that teachers are aware, ready and willing to bring inclusive education into action.

This program in inclusive Education for teachers definitely enriches the school teachers regarding the true concept of inclusion. It focuses mainly on the three important steps essential for inclusion of differently abled students in the regular classroom, i.e. identification, assessment and remedial strategies. The present program gives stress on self-preparation regarding inclusion, cooperative and collaborative learning techniques. Moreover it is based on social constructivism which is the basis of true inclusion. It makes the teachers capable of making the maximum use of available resources. The program makes optimum use of modern technology for orienting the teachers. The above study helps teachers to develop their skills regarding inclusion of all students in regular classrooms. The program mainly focuses on the application of all the strategies regarding inclusion.

5.15 – Review of Related Literature

Review of related literature was helpful for researcher in assessing inclusive practices; it gave guidelines regarding the tools and techniques as well. Researcher reviewed theory, research articles and doctoral researches that helped her in avoiding repetitions of the work. It also gave a framework for the research.

Review regarding program development guided the researcher at every stage of program development like setting up the objectives, scoping, planning for instructions, innovative methods of instruction etc. Review also gave idea about strong points and weaknesses of the previous studies. It highlighted the aspects where research is needed. Review helped to select the proper research design to test the effectiveness.

The following theoretical and research reviews has been conducted by the Researcher.
Table 87- Review conducted

Objective-1

<table>
<thead>
<tr>
<th>No</th>
<th>Aspects</th>
<th>Theoretical</th>
<th>Research Articles</th>
<th>Ph.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Special, Integrated, and Inclusive Education</td>
<td>4</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Physical resources for Inclusion of differently abled students</td>
<td>3</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>
| 3  | Human resources- for Inclusion of differently abled students- a-Availability of teachers  
    | b-Knowledge, acceptance, & attitude of teachers                        | 6           | 10               | 5     |

Objective-2

<table>
<thead>
<tr>
<th>No</th>
<th>Aspects</th>
<th>Theoretical</th>
<th>Research Articles</th>
<th>Ph.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Comparison of urban and rural schools regarding inclusive practices</td>
<td>5</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

Objective-3

<table>
<thead>
<tr>
<th>No</th>
<th>Aspects</th>
<th>Theoretical</th>
<th>Research Articles</th>
<th>Ph.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Education of differently abled students</td>
<td>5</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Development of a program</td>
<td>4</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Inclusive Education and Social Constructivism</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Instructional Systems Design</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>ICT and Inclusion of differently abled students</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>ICT and Teacher Education</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

5.16 Type of Research-

The present research is applied research. The Present research focuses on the practical solution to a problem with the help of principles of social constructivism, collaborative learning, different learning styles, assistive technologies etc. A
program in Inclusive Education is planned, developed and applied on a sample of school teachers to test the effectiveness.

5.17 Research Method

In the present research, researcher explores the facts and learns the phenomenon from as many perspectives as possible. The researcher also tried to establish generalizations applicable beyond the boundaries of research settings. Thus it makes use of two paradigm of research, Qualitative and quantitative. The present research is a multi-method research.

5.18 Population

All the schools in rural and urban Pune are the population for studying Inclusive Practices. All the school teachers from Rural and Urban schools in Pune are the population for assessing attitudes and knowledge of school teachers about Inclusive Education. All the teachers teaching higher primary students are the population for Inclusive Education Program.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Sample</th>
<th>Size of sample</th>
<th>Objective</th>
<th>Method of sampling</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Urban and rural Schools in Pune Principals from urban &amp; rural schools in Pune Teachers from urban &amp; rural schools in Pune</td>
<td>40 40 500</td>
<td>1-To assess physical and resources in urban and rural schools in Pune. 2- To compare physical and human resources in urban and rural schools in Pune with respect to inclusion of differently abled students.</td>
<td>Random Random Random</td>
</tr>
<tr>
<td>4</td>
<td>School teachers teaching for higher primary students</td>
<td>80</td>
<td>Implementation and testing the effectiveness of the program in Inclusive Education.</td>
<td>Purposive</td>
</tr>
</tbody>
</table>
5.19 Tools and Techniques of Research

A- 
SURVEY

Observation (Schools) 
Interview (Principals) 
Attitude Scale (Teachers) 
Questionnaire (Teachers)

B- 
PROGRAM

C- 
EXPERIMENT

Test-1 
Pre-test 
Post-test-1 
Post-test-2

Figure: 44 - Tools and Techniques
5.20-Methodology and Procedure of the Research- Following table gives clear idea about the methodology and procedure for each and every objective of the research.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Procedure of the Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To assess the Physical and Human Resources in urban and rural schools in Pune with respect to i-Modification in infrastructure for inclusion of differently abled students. ii-Material essential for inclusion of differently abled students. iii-Technological support required for inclusion of differently abled students. iv-Availability of Human Resources for inclusion of differently abled students.</td>
<td>Method of Research – Survey Method Tools &amp; techniques used – 1- Observation A-Infrastructural resources, B-Material essential for Inclusion of differently abled students C-Technological support required Inclusion of differently abled students D- Human resources Observation scale first version was prepared. Validation of the scale was done by the experts Necessary changes were made and final version was prepared. Observations were carried out using the above scale in selected schools. 2– Semi-structured Interview of Principal A set of questions was prepared related to the topic with freedom of addition of few questions related to the topic at the time of interview depending upon the conversation. All the aspects were taken into consideration. Discussions were carried out with experts and the nature of questions was decided. Validation of the set of questions: • Pre-pilot study • Expert Opinion • Pilot study • Finalizing Interview questions</td>
</tr>
</tbody>
</table>
v-Knowledge, Acceptance and attitude of teachers in urban and rural schools in Pune with respect to inclusion of differently abled students.

2- To compare Physical and Human Recourses in urban and rural schools in Pune with respect to inclusion of differently abled students.

**Sample-** 40 Principals – Random sampling

**Data Collection** – interviews conducted by researcher.

**Data Analysis** – Quantitative – Percentage Analysis Qualitative – Record of responses

---3– **Questionnaire**

A questionnaire was developed to identify the following aspects from school teachers.

- Knowledge about Inclusive Education
- Availability of resources for inclusion of differently abled students
- Barriers in implementing Inclusive Education
- Experiences of Inclusive Practices
- Adequacy of training regarding of differently abled students

**Constructing first version of the questionnaire**

**Conducting a Pre-pilot Study**

Pre-pilot study involves two steps;

1) Ascertaining the validity of the questionnaire:
2) Conducting an Item Analysis

**Conducting a pilot study**

A pilot study was conducted on 10 school teachers.

**Final form of the questionnaire**

Questionnaire consisting of 60 questions divided in four parts with yes/no, multiple choice, and some questions regarding opinion of school teachers about inclusion were given was finalized.
Sample – 500 school teachers from Rural & Urban Pune. (random sample)

Data Collection – Administration of questionnaire to 500 teachers.

Data Analysis – Quantitative – Raw scores, percentage analysis.

Qualitative – Record of responses

Tool used – Attitude Scale

Tool used was a standardized Attitude Scale, Keith Cochran scale (STATIC: Scale of Teacher’s Attitudes towards Inclusive Classrooms).

Sample – 500 school teachers from Rural & Urban Pune

Data Collection - Administration of Attitude Scale to 500 teachers.

Data Analysis – Percentage Analysis

<table>
<thead>
<tr>
<th>Method of Research</th>
<th>Product Development Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Initial Scoping:</td>
<td>Based on the results of data collected, scope of the program is being finalized.</td>
</tr>
<tr>
<td>2-Detailed Scoping:</td>
<td>Based on the objective, content of the program was planned. Planning for the treatment to be given was done. Detailed survey was done for the purpose of selecting the suitable instructional design.</td>
</tr>
<tr>
<td>3- Developing an outline for instructional design:</td>
<td>Various instructional design models were studied in detail and the design most suitable and effective for</td>
</tr>
</tbody>
</table>

3- To develop and test the effectiveness of Knowledge Based program in inclusive education for teachers in urban and rural schools in Pune.
developing a program was selected.

**Developing of a program in Inclusive Education for school teachers using Kemp’s instructional system design model consisting of nine key elements.**

1. - Identify instructional problems, and specify goals for designing an instructional program.

2- Examine learner characteristics that should receive attention during planning.

3. - Identify subject content, and analyze task components related to stated goals and purposes.

4.-State instructional objectives for the learner.

5.-Sequence content within each instructional unit for logical learning.

6.-Design instructional strategies so that each learner can master the objectives.

7.-Plan the instructional message and delivery.

8.-Develop evaluation instruments to assess objectives.

9.-Select resources to support instruction and learning activities

**Expert Review**

Translation in Marathi without any change in the meanings under the guidance of experts in Marathi language.

Master Validation of the Program in Inclusive Education.

**Implementation** of the Program in Inclusive Education

| Implementation of the Knowledge Based | **Method of Research** – Experimental Research |
| Program in Inclusive Education |
| Research Design  - One Group Pre-test Post-test Design. |
| Elaborated version of One Group Pre-test Post-test Design was used. |
| **Single group interrupted time series design:** |
| $O_1-O_2-X-O_3-O_4$ |
| **Independent Variable**  – Program in Inclusive Education for School Teachers |
| **Dependent Variable**  – Achievement of school teachers |
| School teachers’ feedback. |
| **Sample**  – 80 school teachers teaching for higher primary. Purposive sampling technique. |

| Preparation of test,$O_3$ -40 marks |
| Establishing reliability and validity of test. |
| Expert Opinion- 6 experts |
| Pilot Study – test-retest ,on 10 teachers |
| Final form of the questionnaire |
| Data collection – Administering the questionnaire on 80 teachers |
| Data analysis – mean, SD, t-test. |

<p>| Preparation of test,$O_4$ -40 marks |
| Establishing reliability and validity of test. |
| Expert Opinion- 6 experts |
| Pilot Study – test-retest ,on 10 teachers |
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<tr>
<td>Data analysis – mean, SD, t-test.</td>
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5.21 Findings of the research for objective 1 & 2

1- To assess the Physical and Human Resources in urban and rural schools in Pune with respect to--

i. Modification in infrastructure for inclusion of differently abled students.

ii. Material essential for inclusion of differently abled students.

iii. Technological support required for inclusion of differently abled students.

iv. Availability of Human Resources for inclusion of differently abled students.

v. Knowledge, Acceptance and attitude of teachers in urban and rural schools in Pune with respect to inclusion of differently abled students.

Research questions

i. Are the physical resources in school catering for inclusion of differently abled students?

ii. What sort of technological support is available in the school for inclusion of differently abled students?

iii. How adequate are the available learning and teaching materials in the school for inclusion of differently abled students?

iv. What sort of human resources are available in the schools to cater the needs of differently abled students?

v. What is the current status of training of the school teachers with respect to inclusion of differently abled students?

vi. What are the knowledge levels of school teachers about inclusion of differently abled students?

vii. What is the attitude of teachers regarding inclusion of differently abled students?
Objective-2 To compare the Physical and Human Recourses in urban and rural schools in Pune with respect to inclusion of differently abled students.

**Observation**

**Criteria-1 School Building – Modifications and other infrastructural facilities**

The mean of responses as per observation done is 3.26 for building structure, for size of classrooms, 3, for benches etc. 3.5, for stairs 3.25, for Toilets/playground/library/laboratory3.4, and 2.23 for resource room, for urban schools. For rural schools it is 3.18, 2.35, 3.07, 3, 2.34, 1.35 respectively, which is less than that of Urban Schools.

**Criteria – 2- Other material essential for successful inclusion of differently abled students**

The mean of responses as per observation done is 2.24, for material of physically impaired, 1.45 for HI, 1.25 for VI, 2.6 for learning Disabilities, 3 for Gifted, 2 for Mentally challenged. The means for the same for rural schools is 3.36, 2.34, 2.23, 2, 1.8, and 1.5 respectively.

**Criteria -3 - Technological support required**

The mean of responses as per observation done is 3.25 for VAK modalities, 2.25 for modified computers, 3.5 for central technology room, 1.5 for speech therapy room, which is more than the means for rural schools which are 2.5, 1.5, 1 respectively.

**Criteria-4- Human resources**

The mean of responses as per observation done is 2.54 for special teachers, 1.85 for Para educators, 3.45 for counselors, 4.23 for PTA, 2.2 for teachers training, which is more than mean for the same categories for rural schools, 2.25, 2.13, 1.8, 2.54, 2, respectively.

**Analysis of total mean of the facilities in the schools regarding Inclusion**

Analysis of facilities in the schools regarding inclusion shows the means 56.89 for urban schools and 45.56 for rural schools. It shows that urban schools have more
facilities than rural schools as far as the Inclusion of differently abled students is considered.

![Figure 45: Total mean regarding facilities for inclusion](image)

**Interview**

**Criteria wise Analysis**

**Criteria –1 Concept and Importance of Inclusion**

According to the Principals of urban and rural schools there is no possibility of having a clear knowledge about all the aspects of inclusion of differently abled students as far as the general teachers are concerned.

**Criteria- 2 Barriers faced in implementing, and overcoming challenge**

1-90% principals from Urban schools and 75% principals from Rural schools say that *teacher-pupil ratio* in the schools is one of the most important barrier in implementing Inclusive Education.

2- 95% principals from urban schools and 80% principals from rural schools say that *unavailability of trained teachers* in the schools is the most important barrier in implementing Inclusive Education.

3- According to 50% principals of urban schools and 60% principals from rural schools *support from the society*, attitude of the society is of utmost importance.
4- **Availability of special teachers** is the barrier in implementation of Inclusive Education as per the opinion of 45% principals from urban schools and 55% principals from rural schools.

5- **Availability of Physical resources** is the barrier in implementation of Inclusive Education as per the opinion of 45% principals from urban schools and 70% principals from rural schools.

6- 85% principals from urban schools and 90% principals from Rural schools say that **time-management** is one of the most important barrier in implementing Inclusive Education.

7- 65% principals from Urban schools and 55% principals from Rural schools say that it becomes difficult to detect a student with different ability due to many reasons such as **lack of knowledge about specific ability/disability**, lack of guidance by doctors or special teachers, etc.is one of the most important barrier in implementing Inclusive Education.

8- **“Red tapism** is one of the barrier many times” is the opinion of 30% principals from urban schools and 25% principals from rural schools.

9- **Workload of school teachers**, additional duties given to them also is a discouraging factor for the teachers, is the opinion of 60% principals from urban schools and 75% principals from rural schools.

10- 25% principals from urban schools and 20% principals from rural schools say that **teachers’ attitude** towards differently abled students is the barrier in implementing Inclusive Education

11- **Developmental aspects of differently abled students** is very important barrier as far as school education is considered, is the opinion of 40% principals from urban schools and 45% principals from rural schools.

    (Main challenge is if a child is lagging behind in age mentally then it becomes slightly difficult for the teachers to handle that child along with children of the same chronological age in that class. If it is a physical deformity, it can be overcome but if it is a serious mental deformity then one has to identify if the child needs to be segregated.)
12- 40% principals from urban schools and 60% principals from rural schools say that parental support with respect to differently abled students is the barrier in implementing Inclusive Education.

Criteria-3 Category easier to accommodate

60% principals from urban schools and 65% principals from rural schools say that gifted students are easy to include. 55% principals from urban schools and 45% principals from rural schools say that orthopedically impaired students are easy to include. 15% principals from urban schools and 10% principals from rural schools say that gifted students are easy to include.

According to all the principals HI and VI are difficult to include because of material requirements, time-management, and need of modified instructions.

Criteria -4 modifying curricular and co-curricular activities- According to 20% principals of urban schools and 25% principals from rural schools, it is possible to modify curricular and co-curricular activities as per the needs of differently abled students. 30% principals of urban schools and 35% principals from rural schools, say that it can be possible to some extent, while 50% principals of urban schools and 40% principals from rural schools, say that it can be possible to some extent.

Criteria -5 Teacher training and selection:

According to all the principals of urban schools i.e. (100%) there is no any provision made in pre-service training of teachers regarding teaching-learning of differently abled students.

In teacher education courses such as B.Ed. and D.Ed., education of special needs children comes across as only a fleeting reference and so the teachers are not well-trained or sufficiently experienced to handle children in inclusive settings.

Talking about in-service training of teachers about inclusive education, 20 % principals of urban schools say that the school makes arrangement of workshops, seminars regarding inclusive education, as well as they send their teachers for such programs whenever possible. 10% principals tell that they send their teachers out of Pune also for training regarding inclusive education. 25 %
principals of rural schools tell that they send their teachers for training programs organized by SCERRT or ZP. The above training program is under Education for All. (Sarva Shiksha Abhiyan.). Apart from the above effort no any provision is there for training of teachers about including differently abled students.

Criteria - 6 Guidance and counseling, tie-ups, and required support

10% principals of rural schools say that they make provision of counseling, tie-ups, and required support, while 5% rural principals say the same.

25% principals of rural schools say that provision of counseling, tie-ups, and required support, is moderate while 20% rural principals say the same.

65% principals of rural schools say that there is no such tie up or additional support, provision of counseling in the schools, while 75% rural principals say the same.

Criteria - 8 Involvement of parents in schooling of differently abled students

25% principals of rural schools say that the parents give full support regarding education of the differently abled students, while 15% rural principals say the same.

30% principals of rural schools say that required support by parents of the differently abled students is moderate while 20% rural principals say the same.

45% principals of rural schools say that support from parent’s side is not up to the mark while 65% rural principals say the same.

Criteria - 9 Teachers’ attitude about Inclusion.

55% principals of rural schools say that teachers attitude about inclusion of differently abled students is positive, while 50% rural principals say the same.

Criteria - 10 Reforms in curriculum, government authorities

Opinions are collected from the principals of urban and rural schools, and the common responses are listed out as;

The government should focus on reforming teacher education and should impart training for inclusive education. At times the government sends equipment such as
hearing aids and special eyeglasses but more than that it is the training of teachers which is important. It should send people to train the teachers.

The government insists all sorts of differently-abled children should be given entry into school, without giving any facilities or funds. So to fulfill such needs, the government should provide more teachers and not be very rigid on curriculum and protocol and the school should be given more freedom, flexibility and funds to organize for special education teachers and staff.

The government should arrange visits to inclusive education schools to see how they function because it is actually being practiced and teachers can feel encouraged that inclusion is possible to implement and not something that is difficult to achieve. Government should create proper professional degrees in this field so that more people will opt for them.

**Questionnaire**

There are four parts of the questionnaire

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<td>Part-1- Previous training about Inclusion</td>
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<td>Part -2-Knowledge about Inclusion.</td>
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<td>Part-3-Acceptance of the concept of Inclusive Education.</td>
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<tr>
<td>Part-4-Personal opinions about Inclusion</td>
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**Part-1 Previous Training on Inclusion**

1- **Experience of having student with different ability in the classroom.**

According to 37.2 % teachers of urban schools, they had dealt with differently abled student in their teaching carrier, while 42 % rural school teachers have the experience of differently abled student in the classroom.
2- Training about Inclusion of differently abled students

According to 12% teachers of urban schools, they had completed a training program about teaching differently abled student, while 13.2 % teachers of rural schools say the same.

3-Information regarding Inclusion, Laws about inclusion

According to 19.2 % teachers of urban schools, they know the information regarding Inclusion, Laws about inclusion, while 17.2% teachers of rural schools say the same.30.4% teachers of urban schools say that they know the information regarding Inclusion, Laws about inclusion, up to some extent, while 25.2 % teachers of rural schools say the same.

4-Willingness to take training course/program that helps to teach children with disabilities?

The percentage of teachers showing their willingness to take training course/program that helps to teach children with disabilities is 95.2% for urban schools and 94.4 % teachers of rural schools.

Part -2 Knowledge about Inclusion.

Percentage of urban and rural school teachers having Knowledge about Concept and Categories of Disabilities

Average of all the three categories show that 28% teachers of urban schools give correct responses to the questions showing their knowledge about the concept and categories of disabilities which is less in teachers of rural schools i.e. 22.8%.

Knowledge about Various aspects of Education

Average of all the three categories show that 32.9 % teachers of urban schools give correct responses to the questions showing their knowledge about the concept and various aspects of Education which is less in teachers of rural schools i.e. 27.45%

Effort by various Countries to support Inclusion Legally

Average of all the three categories show that 25.48 % teachers of urban schools give correct responses to the questions showing their knowledge about the Efforts
by various Countries to support Inclusion Legally, which is less in teachers of rural schools i.e. 19.44 %.

**Various strategies of Inclusion**

Mean of all the responses regarding various aspects and strategies of inclusion show that 41.37 % teachers of urban schools give correct responses to the questions showing their knowledge regarding various aspects and strategies of inclusion, which is less in teachers of rural schools i.e. 34.22 %.

**Primary Knowledge about differently abled students**

Mean of all the responses regarding Primary Knowledge about differently abled students, show that 38.72 % teachers of urban schools give correct responses to the questions showing their knowledge regarding Primary Knowledge about differently abled students, which is less in teachers of rural schools i.e. 26.32%.

**Statistical Interpretation of part 2- (Knowledge about Inclusion) with the t-test**

**Significance of difference of mean of scores of knowledge test for urban and rural teachers:**

The obtained ‘t’ value is 14.6 at 0.01 level of significance which is greater than table value 2.64. Thus ‘t’ value is significant which means that research hypothesis is accepted and null hypothesis is rejected.

**Part-3 - Acceptance of the concept of Inclusive Education.**

Percentage of teachers facing difficulties with differently abled students is 38% for urban teachers and 30% for rural teachers while 78% teachers from urban schools and 80% teachers from rural schools do not face difficulties with differently abled students.

Percentage of teachers having enough time to deal with differently abled students in the class is 28% for urban teachers and 20% for rural teachers while 72% teachers from urban schools and 80% teachers from rural schools do not have enough time to deal with.
According to 78% urban teachers and 64% rural teachers, differently abled students are focus of interest in the class by other students. While 22% teachers from urban schools and 36% teachers from rural schools say that they are not the focus of other students.

According to 46% urban teachers and 36% rural teachers, differently abled students are excluded by general students in the class. While 55% teachers from urban schools and 65% teachers from rural schools do not say the same.

According to 54% urban teachers and 68% rural teachers, differently abled students are supported by general students. While 46% teachers from urban schools and 32% teachers from rural schools say that these students are not supported.

According to 42% urban teachers and 36% rural teachers differently abled students have difficulties to get along with general students, while 58% teachers from urban schools and 64% teachers from rural schools do not face difficulties with general students.

According to 36% urban teachers and 34% rural teachers they get help from related professionals to give information, necessary for inclusion of differently abled students while 64% teachers from urban schools and 66% teachers from rural schools do not get any such help.

According to 40% urban teachers and 48% rural teachers their communication level with differently abled students is low, while 55% teachers from urban schools and 52% teachers from rural schools tell it as average.

According to 10% urban teachers and 14% rural teachers, they are having enough time to deal with differently abled students in the class.

**Part-4 - Personal opinions about Inclusive Education.**

According to 51% teachers from urban schools and 54% teachers, their knowledge about inclusive education is at low level, while 39% teachers from urban schools and 52% teachers feel that their knowledge about inclusive education is at average level.
Attitude scale

A- Attitude regarding responsibility and commitment towards inclusion
Percentage of teachers showing positive attitude regarding responsibility and commitment towards inclusion is 51% for urban school teachers and 52% for rural teachers.

B- Attitude towards special needs of students in inclusive set up.
According to 58% urban teachers and 57% rural teachers show overall positive attitude towards special needs of students in inclusive setup.

C- Attitude towards training and curriculum in teacher education.
According to 42% urban teachers and 45% rural teachers they are lacking the skills required for dealing the differently abled students.

D - Assistance of special education teachers, infrastructural facilities.
Percentage of teachers showing positive attitude towards assistance of special teachers is 49% for teachers of urban schools and 50% for teachers from rural teachers, both the types of teachers (urban and rural) are not satisfactory about infrastructural facilities.

Comparison of attitude of urban and rural teachers about inclusion of differently abled students.

Mean of the responses for category- A (responsibility and commitment towards inclusion.) for teachers of urban schools is 22 and that of rural teachers is 21.74. t-Value is 1.5 at 0.1 level of significance.

Mean of the responses for category- B (special needs of students in inclusive set up) for teachers of urban schools is 26.744 and that of rural teachers is 26.516. t-Value is 1.56 at 0.01 level of significance.

Mean of the responses for category- C (Attitude towards training and curriculum in teacher education) for teachers of urban schools is 9.1 and that of rural teachers is 9.239. t- Value is 1.48 at 0.01 level of significance.
Mean of the responses for category- D (Assistance of special education teachers, infrastructural facilities.) for teachers of urban schools is 22.48 and that of rural teachers is 22.15, t- Value is 1.63 at 0.01 level of significance.

5.22 Findings of the Research for Objective 3

Objective 3 - To develop and test the effectiveness of Knowledge Based Program in inclusive education (KBPIE) for teachers in urban and rural schools in Pune.

Research hypothesis- Knowledge and acceptance level of the teachers is increased after implementing the program.

Null hypothesis- There is no significant difference in knowledge and acceptance level of teachers about inclusion before and after the program.

Significance of difference of mean of pre and post-test scores

Mean of the scores of Pre-test (O2) and Post-test (O3) were calculated followed by calculation of Standard deviation. Then t- value is calculated.

The obtained ‘t’ value is 16.6 at 0.01 level of significance which is greater than the table value, 2.64. ‘t’ value is not significant means research hypothesis is accepted and null hypothesis is rejected.

Mean of the scores of Pre-test (O2) and Post-test (retention test) (O4) were calculated followed by calculation of Standard deviation. Then t- value is calculated for the same.

The obtained ‘t’ value is 11.29 at 0.01 level of significance which is greater than the table value, 2.64. ‘t’ value is significant means research hypothesis is accepted and null hypothesis is rejected.
5.23 Conclusions of the research for objective 1 & 2

**Objective-1** - To assess the Physical and Human Resources in urban and rural schools in Pune with respect to--

i. Modification in infrastructure for inclusion of differently abled students.

ii. Material essential for inclusion of differently abled students.

iii. Technological support required for inclusion of differently abled students.

iv. Availability of Human Resources for inclusion of differently abled students.

v. Knowledge, Acceptance and attitude of teachers in urban and rural schools in Pune with respect to inclusion of differently abled students.

**Objective -2** - To compare the Physical and Human Resources in urban and rural schools in Pune with respect to inclusion of differently abled students.

**Research questions**

i. Are the physical resources in school catering for inclusion of differently abled students?

ii. What sort of technological support is available in the school for inclusion of differently abled students?

iii. How adequate are the available learning and teaching materials in the school for inclusion of differently abled students?

iv. What sort of human resources are available in the schools to cater the needs of differently abled students?

v. What is the current status of training of the school teachers with respect to inclusion of differently abled students?

vi. What are the knowledge levels of school teachers about inclusion of differently abled students?

vii. What is the attitude of teachers regarding inclusion of differently abled students?
Physical Resources:

1 - School Building

Both the type of school buildings (urban & rural), are not designed according to the plan necessary for an inclusive school.

Modifications and infrastructural facilities provided in urban schools are moderate while the same in rural schools is not satisfactory.

Urban schools have more infrastructural facilities than rural schools. But the school building structure for both the types is not at all good for students with physical disabilities. Even facilities regarding resource room, modified ICT tools and other facilities are not up to the mark. Three urban schools from the selected sample provide facility of elevator for orthopedically impaired students, and modifications in toilets. There is no such provision in rural schools.

Criteria – 2 - Other material essential for successful inclusion of differently abled students

In case of material for HI, VI and orthopedic impairment many rural schools are provided with essential material by government. They are with more material than urban schools.

Criteria -3 - Technological support required

Technological facilities in urban schools are more than that of rural schools but as far as successful inclusion of differently abled students is concerned both the types of schools have very less modifications done technologically.

Conclusion: Analysis of facilities in the schools regarding inclusion shows the means 55.4 for urban schools and 44.17 for rural schools. It shows that urban schools have more facilities than rural schools as far as the Inclusion of differently abled students is concerned. It also show that lot of efforts is required to do in both the schools (urban and rural) regarding modifications in physical resources. Urban schools are not having material essential for inclusion of differently abled students, like special teaching-learning material for these students, specific equipment for specific different ability, mobility equipment need, and other required facilities. Rural schools are provided with some material necessary for differently abled students, but there is very less possibility of reaching the same to the rural schools.
Most services for children with disabilities are concentrated in big cities or close to district headquarters. The majority of children with disabilities who live in rural areas do not benefit from these services.

**Criteria 4-Barriers regarding human resources in implementing, and overcoming challenges**

There are several barriers in implementing Inclusion of differently abled. Some of the important barriers are-

1. Teacher–pupil ratio (class strength)
2. Training of teachers
3. Time management
4. Workload of school teachers
5. Availability of special teachers
6. Detection of child with special needs
7. Developmental aspects of differently abled students
8. Support from society
9. Parental support
10. Teachers’ attitude
11. Red-tapism

Training of available teachers about Inclusion of differently abled students is the most essential factor that has to be taken into consideration.

The curriculum lacks the required flexibility to cater to the needs of children with disabilities. There are limited developmentally appropriate teaching–learning materials for children both with and without disabilities. The teaching–learning process addresses the individual learning needs of children in a limited way.

Urban schools have more facilities regarding human resources, than rural schools but improvement is needed as far as means of schools of both the categories is considered. Maximum No of schools do not have any provision of special teacher or Para-educator .There is no any tie-up with any such institution. Very few schools do have such provision, but that too for one particular disability.

Rural categories are having provision of Para-educators but their number is less as No. of schools in particular block is concerned is concerned. Frequency of visits of Para-educators to schools is very less.
Criteria 5 - Category of differently abled students that is easier to accommodate

According to most of the principals gifted students are easier to accommodate. Orthopedically impaired also with some necessary modifications. Learning disabilities also can do if material is provided. HI and VI are little bit difficult to accommodate because of lack of skilled professionals.

Criteria 6 - Modifying curricular and co-curricular activities

According to the urban and rural principals it becomes difficult to modify curricular and co-curricular activities as per the needs of differently abled students because of many reasons such as unavailability of resources, time factor, workload, lack of proper training about what and how to modify etc.

Criteria 7 - Teacher training and selection: There is no any provision made in pre-service training of teachers regarding teaching-learning of differently abled students.

State of teacher training and education is very poor when it comes to working in an inclusive setup and handling students with special needs.

At the time of selecting teachers, the inclusive schools are left with no option but to test and focus a lot on teacher attitude rather than training.

In teacher education courses such as B.Ed. and D.Ed., education of special needs children comes across as only a fleeting reference and so the teachers are not well-trained or sufficiently experienced to handle children in inclusive settings.

Criteria 8 - Guidance and counseling, tie-ups, and required support

Urban schools are comparatively superior in providing support for inclusion of differently abled students, but lot of efforts are still required for urban as well as rural type of schools in this respect.

Criteria 9 - Involvement of parents in schooling of differently abled students

Parents of the differently abled students of students studying in urban schools are more involved in their schooling than parents of students studying in rural schools.
Criteria - 10 Teachers’ attitude about Inclusion.

Overall attitude of the teachers about inclusion of differently abled students is positive. There is very minute difference in urban and rural schools as far as the teachers’ attitude about inclusion of differently abled students is concerned.

Part-1 Previous Training on Inclusion

Experience of having student with different ability in the classroom.

Rural teachers have more experience of dealing with differently abled students in the classroom. The difference is very less between the No. of urban and rural teachers that are having experience of differently abled students in the classroom.

Training about Inclusion of differently abled students.

% of teachers attended any training program about teaching differently abled students, is very less in both the categories showing a need of such a program for teachers.

Information regarding Inclusion, Laws about inclusion

The knowledge level of teachers of urban schools is more than that of teachers of rural schools. Both the groups have less knowledge about Inclusion, and Laws about inclusion.

Willingness to take training course/program that helps to teach children with disabilities

Teachers of both the categories, urban and rural show willingness take training course/program that helps to teach children with disabilities. They like to take information regarding various different abilities in students, characteristics, remedial measures etc.

Part -2 -Knowledge about Inclusion.

Percentage of urban and rural school teachers having Knowledge about Concept and Categories of Disabilities

Teachers of urban schools are clearer about the concept and categories of disabilities than teachers of rural schools. % of both the groups is comparatively less as far as knowledge about the same is concerned.
**Knowledge about Various aspects of Education**

Teachers of urban schools are clearer about the concept and various aspects of Education than teachers of rural schools. % of both the groups is comparatively less as far as knowledge about the same is concerned.

**Effort by various Countries to support Inclusion Legally**

Teachers of urban schools are clearer about the Efforts by various Countries to support Inclusion Legally, than teachers of rural schools. % of both the groups is comparatively less as far as knowledge about the same is concerned.

**Various strategies of Inclusion**

Teachers of urban schools know more information regarding various strategies of inclusion, than teachers of rural schools. % of both the groups is comparatively less as far as knowledge about the same is concerned.

**Primary Knowledge about differently abled students**

Teachers of urban schools has more Knowledge about differently abled students, than teachers of rural schools. % of both the groups is comparatively less as far as knowledge about the same is concerned.

**Conclusions about knowledge of teachers about inclusion of differently abled students**

The t value obtained indicates that there is a significant difference in knowledge levels of Urban and rural school teachers about inclusion of differently abled students.

The school teachers from urban schools have more knowledge about Inclusion of differently abled students.

**Part-3 - Acceptance of the concept of Inclusive Education.**

The school teachers have no enough time to deal with differently abled students in the classroom.

Differently abled students are the focus of others in the classroom.
If treated properly differently abled students can be successfully included along
with the other stunts in schools.

School teachers need help and support from special teachers, Para-educators.
Active support from parents of differently abled students is crucial which is very
less in rural schools.

**Part-4 - Personal opinions of teachers about Inclusive Education.**

Schools have less Knowledge about inclusion of differently abled students.

School teachers are not confident about the acceptance of differently abled students
in the classrooms.

School teachers accept that Inclusive education is very important and necessary for
social development and self-esteem of student with different abilities.

School teachers accept that Inclusive education is useful for students without
SENs, because having differently abled friends; they can learn social acceptance
and tolerance towards differences.

**A-Attitude regarding responsibility and commitment towards inclusion**
The school teachers from urban and rural schools show overall positive attitude as
far as responsibility towards inclusion of differently abled students is considered.
There is no significant difference in attitudes of urban and rural teachers regarding
this category.

**B- Attitude towards special needs of students in inclusive set up.**
The school teachers from urban and rural schools show overall positive attitude as
far as responsibility towards inclusion of differently abled students is considered.
Rural teachers show more concern regarding the needs of differently abled
students.

**C- Attitude towards training and curriculum in teacher education.**
Teachers from both the types of schools mentioned need of proper training about
Inclusive Education. They are willing to undergo such training about inclusion of
differently abled students.
D- Assistance of special education teachers, infrastructural facilities.

Teachers from both the types of schools mentioned need of Assistance of special education teachers, for dealing with differently abled students but they are not satisfactory as far as collaboration of special teachers is concerned.

5.24 Conclusions of the research for objective 3

Objective 3 - To develop and test the effectiveness of Knowledge Based Program in inclusive education (KBPIE) for teachers in urban and rural schools in Pune.

Research Hypothesis

Knowledge and acceptance level of the teachers is increased after implementing the program

Null Hypothesis

There is no significant difference in knowledge and acceptance level of teachers about inclusion before and after the program.

- Knowledge level of School teachers teaching at higher primary level regarding Concept & Nature of Inclusive Education, Historical/Legal Background of Inclusive Education is raised after implementing the program.
- Knowledge level of School teachers teaching at higher primary level regarding Identifying differently abled students is raised after implementing the program.
- Knowledge level of School teachers teaching at higher primary level regarding how to deal with differently abled students is raised after implementing the program.
- Knowledge level of School teachers teaching at higher primary level regarding inclusion of differently abled students is raised after implementing the program.
➢ The $t$ value from pre-test (O2) and post-test-1(O3) indicates that the Knowledge Based Program in Inclusive Education (KBPIE) for Teachers teaching at higher primary level is significantly effective.

➢ The $t$ value from pre-test (O2) and post-test-2, retention test (O4) indicates that the Knowledge Based Program in Inclusive Education (KBPIE) for Teachers teaching at higher primary level is significantly effective.

5.25 Major findings of the Research

Major findings of the research according to the objectives are mentioned in a table below;

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<th>Objective</th>
<th>Major Findings</th>
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<td>Objective-1</td>
<td>1-In urban &amp; rural types of schools, school buildings are not designed according to the plan necessary for an inclusive school</td>
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<tr>
<td>1- To assess the Physical and Human Resources in urban and rural schools in Pune with respect to--</td>
<td>Modifications and infrastructural facilities provided in schools are in unsatisfactory to moderate range.</td>
</tr>
<tr>
<td>i. Modification in infrastructure for inclusion of differently abled students.</td>
<td>2- Material essential for inclusion of differently abled students is not adequate in both the types of schools.</td>
</tr>
<tr>
<td>ii. Material essential for inclusion of differently abled students.</td>
<td>3- As far as successful inclusion of differently abled students is concerned both the types of schools, i.e. urban and rural, have very less modifications done technologically.</td>
</tr>
<tr>
<td>iii. Technological support required for inclusion of differently abled students.</td>
<td>4- Maximum No of schools do not have any provision of special teacher or Para-educator. There is no any tie-up with any such institution. Very few schools do have such provision, but that too for one particular disability.</td>
</tr>
<tr>
<td>iv. Availability of Human Resources for inclusion of differently abled students.</td>
<td>Rural categories are having provision of Para-</td>
</tr>
</tbody>
</table>
and attitude of teachers in urban and rural schools in Pune with respect to inclusion of differently abled students.

educators but their number is less as No. of schools in particular block is concerned.
Frequency of visits of Para-educators to schools is very less.

5- There is no any provision made in pre-service training of teachers regarding teaching-learning of differently abled students.
State of teacher training and education is very poor when it comes to working in an inclusive setup and handling students with special needs.
In teacher education courses such as B.Ed. and D.Ed., education of special needs children comes across as only a fleeting reference and so the teachers are not well-trained or sufficiently experienced to handle children in inclusive settings.

Teachers of both the categories, urban and rural show willingness take training course/program that helps to teach differently abled children.

6- Knowledge of the school teachers regarding inclusion of differently abled students is not satisfactory.

7- Teachers from urban and rural schools show overall a positive attitude towards inclusion of differently abled students.

<table>
<thead>
<tr>
<th>Objective-2</th>
<th>To compare the Physical and Human Recourses in urban and rural schools in Pune with respect to inclusion of differently abled students.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-</td>
<td>Modifications and infrastructural facilities provided in urban schools are moderate while the same in rural schools is not satisfactory. Urban schools have more infrastructural facilities than rural schools.</td>
</tr>
<tr>
<td>2-</td>
<td>In case of material for HI, VI and orthopedic</td>
</tr>
</tbody>
</table>
impairment many rural schools are provided with essential material by government.

3- Technological facilities in urban schools are more than that of rural schools but as far as successful inclusion of differently abled students is concerned both the types of schools have very less modifications done technologically.

Urban schools have more facilities regarding human resources, than rural schools but improvement is needed as far as means of schools of both the categories are considered.

Urban schools are comparatively superior in providing support for inclusion of differently abled students, but lot of efforts are still required for both the types of schools in this respect.

4- as far as inclusion of differently abled students is considered, the knowledge level of teachers of urban schools is more than that of teachers of rural schools

5- The school teachers from urban and rural schools show overall positive attitude as far as responsibility towards inclusion of differently abled students is considered.

Objective 3 - To develop a program and test the effectiveness of a program in inclusive education for teachers in urban and rural schools in

1-Knowledge Based Program in Inclusive Education (KBPIE) for teachers teaching for higher primary level is effective with respect to, Concept & Nature of Inclusive Education, Historical/Legal Background of Inclusive
2-Knowledge Based Program in Inclusive Education (KBPIE) for teachers teaching for higher primary level is effective with respect to, identifying differently abled students.

3-Knowledge Based Program in Inclusive Education (KBPIE) for teachers teaching for higher primary level is effective with respect to, dealing with differently abled students.

4-Knowledge Based Program in Inclusive Education (KBPIE) for teachers teaching for higher primary level is effective with respect to, inclusion of differently abled students.

5-The t value from pre-test (O2) and post-test-1 (O3) indicates that the Knowledge Based Program in Inclusive Education (KBPIE) for Teachers teaching at higher primary level is significantly effective.

6-The t value from pre-test (O2) and post-test-2, retention test (O4) indicates that the Knowledge Based Program in Inclusive Education (KBPIE) for Teachers teaching at higher primary level is significantly effective.

5.26 Recommendations

The Knowledge Based program in Inclusive Education (KBPIE) for teachers teaching for higher primary can be used by schools to help their teachers in dealing with differently abled students in the classrooms.
The Knowledge Based program in Inclusive Education (KBPIE) for teachers teaching for higher primary can be used by B.Ed. teachers in their colleges to raise the knowledge of teacher trainees with respect to differently abled students.

The Knowledge Based program in Inclusive Education (KBPIE) for teachers teaching for higher primary can be used by schools to help their teachers in preparing an individualized educational plan for differently abled students.

The Knowledge Based program in Inclusive Education (KBPIE) for teachers teaching for higher primary can be used by primary schools to help the teachers in dealing with differently abled students in the classrooms.

5.27 Suggestions for Further Research

- Research on practical implementation of the program for the academic year will be one of the important lines of research that will be more helpful in studying the long term effectiveness of the program in Inclusive Education for teachers.
- Research in the field of pre-service education regarding knowledge of teacher trainees will be the line of research.
- Inclusion of students with a specific different ability is also the topic that can be taken into consideration.
- Developing a program for elementary teachers will also be one of the challenging thought that can be worked out.

5.28 Contributions to Knowledge in the Field

Self-learning material prepared for the research program has been definitely used as a basis while implementing inclusion in the classrooms. It will definitely help teachers, teacher educators in guiding the teacher trainees about inclusion of differently abled students. It can be one of the effective programs for schools to plan for training of their teachers about inclusive education. It has provided all the necessary tools and techniques of identifying the differently abled students. The program will guide the teachers about preparing IEP of specific students. This will definitely boost the research in this particular area. Considering the present
scenario of Continuous comprehensive remedial evaluation the program will definitely become the guideline of teaching learning process.

5.29 Discussion

The purpose of the study was assessing inclusive practices in urban and rural schools in Pune. Findings of this research gave some important facts and practical implications. There were three major sections of the research, according to the objectives.

First objective of the research was regarding assessing inclusive practices; Analysis of the data shows that both the type of school buildings are not designed according to the plan necessary for an inclusive school. Modifications and infrastructural facilities provided in urban schools are moderate while the same in rural schools is not satisfactory. These findings are supported by the research carried out by the volunteers of Sruti disability Rights Centre and Child Rights and You (CRY) which aims to find out the gap between the policy and the existing situation, according to this study carried out in Kolkata, West Bengal, by CRY, Nearly 83% of the respondents considered the school infrastructure needs to be improved. The lack of lift or ramp evidently constituted a hazardous problem for the students with disabilities to have access to every nook and corner of the school.

The findings were also supported by the research regarding the infrastructural conditions of schools in Delhi by Yogendra Pandey in 2009. The researcher (Yogendra Pandey), conducted survey of 20 Government schools and 20 Public schools in Delhi and concluded that majority (80%) of both types of schools did not have essential physical infrastructure/facilities like Ramps, disabled friendly toilet, sitting and lighting arrangement etc. Also, almost all schools (91.9%) did not have teaching learning materials like Braille papers, Braille books, tactile maps, embossed diagram, large print books etc. for use of V.I. Children. The findings of the study by Jasmeet Kaur, 2010 also threw light on non-availability of effective infrastructure facilities in schools.

Considering Human resources, analysis shows very less percentage of teachers, with proper training essential for inclusion of differently abled students. Teachers are not aware about what differently abled students are, how to identify
them and what to do for their successful inclusion. These results are in same finding given by report prepared for Irish schools which say that inadequacies in training at undergraduate, postgraduate and on-the-job training were the most universally cited constraints to creating inclusive learning environments. Initial teacher training was reported to be lacking in the area of special educational needs and this was said to have had major implications for inclusive practice. (Report prepared for The National Council for Special Education, 2009), similar results are given by - "Kremer etc. (2004), "Teacher Absence in India: A Snapshot", "Journal of the European Economic Association"". Globetrotter.berkeley.edu. Retrieved 2010-09-01.

Regarding the knowledge level of school teachers in urban & rural school teachers in Pune, there should be improvement in knowledge levels of teachers about inclusion of differently abled students. Same recommendations are given from the findings of the research by Sheila Saravanabhavan, Virginia state university, and RC. Saravanabhavan, Howard university,(knowledge of learning disability among pre- and in-service teachers in India).

The findings of research done by Yogendra Paney 2009 also gives stress on poor knowledge of school teachers regarding inclusion of differently abled students. Similar finding were noted by Hovendick, Connie (2009, North Dacota State University) about knowledge and confidence of school teachers regarding inclusion of differently abled students.

While considering the attitudes of teachers, this research indicates that both the school teachers (urban & rural in Pune) show overall a positive attitude regarding inclusion of differently abled students. Similar findings are observed in the research (Loreman et al., 2005; Romi & Leyser, 2006;Woodcock, 2008),( M. Tariq Ahsan,Umesh Sharma, Joanne M. Deppeler, Faculty of Education, Monash University, Australia),( Ahmed Bawa Kuyini and Ishwar Desai,University of Melbourne).Positive attitude of teachers about inclusion was also noted by Rorie Ross, Hill (2009,southeastern USA). These findings are in sharp contrast to the existing studies,( Regular primary schoolteachers’ attitudes towards inclusive education: a review of the literature, Anke de Boera*, Sip Jan Pijlb & Alexander Minnaerta )
Different kind of research conducted by Kala Parasurama (2006) in Mumbai, India, about variables that affect teachers attitude towards disability and Inclusive Education revealed that while some of the variables of interest did affect teachers’ attitudes towards disabilities, the only variable that affected teachers’ attitudes towards inclusion was prior acquaintance with a person with a disability.

Second objective of the present research was to compare between physical and human resources in urban & rural schools in Pune about inclusion of differently abled students. Analysis shows that urban schools have more infrastructural facilities (building, technological resources). The results are in agreement with the SSA. Evaluation report of India, 2010. (In terms of lack of electricity, technological facilities, trained teachers etc.).

As far as gap between Urban and Rural schools is concerned, the study by Vishal Pajankar, (2010) has thrown up light on disparity between urban schools and Rural schools based on eight key indicators.

Regarding infrastructural resources, similar findings are noted by Biju M. R. 2010, that all the resources are less in rural schools than urban schools.

Third objective of the above research was, to develop and to test the effectiveness of a Knowledge Based Program in Inclusive Education (KBPIE) for school teachers. Taking into consideration, the observations and responses of the sample selected, KBPIE was developed and its effectiveness was tested.

The results show the obtained ‘t’ value is 11.29 at 0.01 level of significance which is greater than the table value, 2.64. ’t’ value is significant means research hypothesis is accepted and null hypothesis is rejected. It means that Knowledge Based Program in Inclusive Education (KBPIE) for teachers teaching at higher primary level is effective with respect to, inclusion of differently abled students. The same findings are noted regarding the effectiveness of program (Preparing General Education Teachers for Inclusive Settings: A Constructivist Teacher Education Program, Sharon Lesar, and Susan M. Benner, Laurence Coleman, from University of Tennessee-Knoxville, & John Habel, Western Carolina University). Effectiveness of the support program for general teachers was also reported by Hasbrouck, Jan E.; Christen, Margaret H, in article, Providing Peer Coaching in Inclusive Classrooms: A Tool for Consulting Teachers.).
Model for Inclusive Teacher Preparation was developed by Whiteworth J.W.1999 and was found effective at pre service level.

Findings of the study have various implications in Indian context. Regarding status of urban and rural schools for inclusion of differently abled students, the study indicates the need of reforms in infrastructural and human resources essential for success of inclusion of differently abled students in schools. Further it indicates how such a training program is essential for teachers with respect to successful inclusion of differently abled students. This study also indicates the importance of knowledge of laws and rules regarding inclusion of differently abled students, prior training on differently abled students. There are programs for elementary teachers, on inclusion of differently abled students, but less research is carried out on higher primary teachers and their preparedness regarding inclusion of differently abled students. Thus practical implications of the present study will definitely able to prepare teachers for successful inclusion of differently abled students. It will definitely be a step forward towards development of an inclusive society.