CHAPTER VI
SUMMARY
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SUMMARY

6.0.0 INTRODUCTION
The detailed report of the present investigation has been given in previous chapters. In the present chapter, the summary of the report has been presented in the different captions like statement of problem, justification, title, objective, hypothesis, sample, design, tool, data analysis, findings with implications, limitations and further suggestions.

6.1.0 STATEMENT OF THE PROBLEM

Given the importance to new technology into education, understanding when and how it enhances performance amongst teacher trainees and learning outcomes of school students is an important question. Globally M-learning is contributing a lot in field of education and training. It also has very brighter prospects in Indian context and lot more potential to serve for pre-service teacher training programs to build technically sound future teachers and to add more to their performance. Usually it has been seen teacher training colleges are hampered by usual tools and techniques to convey to teacher trainees, which have become obsolete and does not contribute anything new in teaching and learning. Technologies like mobile-learning with proper knowledge management can make a huge difference by reshaping the structure of educational technology into teacher training programs and can enhance performance of teacher trainees. To date, these assumptions have been largely untested.

6.2.0 NEED OF THE STUDY

M-Knowledge Management is the most transformative opportunity in today’s period and it presents a significant means for enhancing formal learning and training. Above mention studies indicate the ways M-learning benefits university teachers
and students, accounting students, rural and urban school children, private and public school teachers and students. But studies excluded M-learning implementation into teacher training programme for enhancement of pre-service teacher's performance. So it was need of the hour to look into the respective area.

The advances in mobile technologies have enabled various teachers to exchange instructional content in flexible ways; they can communicate with students through voice, images and text, they can prepare lessons, store their teaching content and can share at anytime, anywhere with no hassle. Simply teachers can prepare, present and assess with ease by the help of mobile device and correct knowledge management into it. It also may be effective in teacher training context, to know teacher trainees perception. And their reaction on mobile knowledge management program, if it is implemented during their practice teaching period. These assumptions have been largely untested yet.

In the field of education whatever is done is done for student’s better learning. Not all the students share the same demographics, predispositions, knowledge, experiences and off course learning styles, so they definitely need versatile teaching approaches, strategies and presentation methods. Mobile knowledge management assists in versatile teaching and learning which school students may find it effective and would be able to assess the performance of teacher trainees. These assumptions have been largely untested yet.

Further M-knowledge management resolutions are the most important strategies to be included in performing activities related to knowledge assets. Hence inculcating knowledge management strategies into M-learning can benefit users. It is the greater demand for effective and techno-sound teachers that justifies the need for implication of Mobile Knowledge Management Program during pedagogic performance for prospective teachers. Thus, the title of the study is worded as follows.
6.3.0 TITLE

‘Effectiveness of Knowledge Management in M-Learning on Pedagogical Performance amongst Teacher Trainees’.

6.4.0 OBJECTIVES

1. To study the effect of M-Knowledge Management in terms of Pedagogic Performance amongst teacher trainees.

2. To study the effect of M-Knowledge Management on Pedagogic Performance amongst teacher trainees.

3. To study the effect of M-knowledge management, Residential Background and their interaction on Pedagogic Performance amongst teacher trainees.

4. To study the effect of M-Knowledge Management, Educational Background and their interaction on Pedagogic Performance amongst teacher trainees.

5. To study the effect of M-knowledge management, Language Background and their interaction on Pedagogic Performance amongst teacher trainees.

6. To study the effective of M-Knowledge Management, Teacher Effectiveness and their interaction on Pedagogic Performance amongst teacher trainees.

7. To study the Change in Reaction towards M-Knowledge Management program amongst teacher trainees before and after treatment.
6.5.0 OPERATIONAL DEFINITIONS

The following are the operational definition of the terms used in the objectives.

1. M-Knowledge Management
M-Knowledge Management here refers to skill of managing knowledge resources effectively by means of recognizing, storing, sharing, refining, and retaining through mobile phone for pedagogical delivery.

2. Pedagogical Performance
Pedagogical performance means teacher trainee’s integration of M-learning for pedagogical delivery. This performance is measured through two tools TPQ & TAS:

2.1 TPQ pedagogic performance refers to content dissemination, response of Students, cost effectiveness, objective Attainment.
2.2 TAS pedagogic performance refers to content delivery, choice of strategy, media selection and means of assessment.

3. Teaching Effectiveness
Teaching effectiveness in this study refers to as academic & professional knowledge, presentation of lesson, classroom management, feedback and personal qualities of teacher trainees in successful planning, presenting, assessing and reforming instruction.

4. Residential Background
Residential backgrounds refer to Rural and Urban areas from which teacher trainees belong.

5. Language Background
In the study Language background refers to medium of instruction such as Hindi or English taken up by teacher trainees during their education.
6. Educational Background

Educational background here refers to level of education i.e. UG/PG degree attained by teacher trainees.

6.6.0 HYPOTHESES

1. The mean scores of M-Knowledge Management in terms of pedagogic performance are not significantly different.

2. The mean scores of High M-Knowledge Management Performance are not significantly different with those of Low M-KM Performance.

3. There is no significant effect of M-Knowledge Management, Residential Background and its interaction on Pedagogic Performance of teacher trainees.

4. There is no significant effect of M-Knowledge Management, Educational Background and its interaction on Pedagogic Performance of teacher trainees.

5. There is no significant effect of M-Knowledge Management, Language Background and its interaction on Pedagogic Performance of teacher trainees.

6. There is no significant effect of M-Knowledge Management, Teacher Effectiveness and its interaction on Pedagogic Performance of teacher trainees.

7. The mean scores of reaction towards M-knowledge management program amongst teacher trainees before and after treatment are not significantly different.
6.7.0 POPULATION

The present study was experimental in nature. To carry out the study on knowledge management on pedagogic performance, the teacher training institutes of Kota district were considered as the population of the study. Kota district was opted for conducting the study as it has maximum number of higher education institutions with highest literacy rate in Rajasthan. From the twenty five teachers training institutions one teacher training institution was randomly chosen for the study. These teacher training institutes were affiliated to Kota University.

6.7.1. SAMPLE

This study sample was based on multistage sampling technique. As mentioned earlier from the twenty five identified teachers training institutes situated in Kota, one training institute was randomly selected. The institute includes graduate teacher training program. In the course there are four teaching streams, from which the registered teacher trainees have to choose two teaching subjects of their stream. In the line of investigator expertise, teacher trainees belonging to social science and language were considered for the study. Further these teacher trainees were invited to join Mobile-Knowledge Management Program. Thereby, the willing participants were taken as the sample of the study. In all 52 teacher trainees participated in M-Knowledge Program. All these teacher trainees were registered after common entrance test. They were day scholars and were familiar to Hindi and English language.

As per mobile knowledge management program, these teacher trainees after M-Knowledge Management orientation needed to transact M-KM lessons in their respective allotted classes in four assigned schools. These teacher trainees needed to engage students of either primary or secondary sections. It means the learners of the respective schools along with the teacher trainees were the cumulative sample of the study. Group wise distribution of the sample is given in Table 6.1.
Table 6.1: Group wise and section wise distribution of sample

<table>
<thead>
<tr>
<th>Group</th>
<th>Allotted Sections</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary</td>
<td>Secondary</td>
<td>Total</td>
</tr>
<tr>
<td>Teacher Trainees</td>
<td>28</td>
<td>24</td>
<td>52</td>
</tr>
<tr>
<td>School Students</td>
<td>308</td>
<td>264</td>
<td>572</td>
</tr>
<tr>
<td>Total</td>
<td>384</td>
<td>240</td>
<td>624</td>
</tr>
</tbody>
</table>

From Table 6.1 it is evident that M-KM group comprised of 52 teacher trainees. Of these 28 teacher trainees were assigned to primary section and 24 teacher trainees were allotted the senior section. The other group was 572 school students from which 308 school students belonged to primary section and 264 to senior section. Thereby, the total sample of teacher trainees and school students was 624. Each teacher trainee was randomly allotted 11-12 students. These teacher trainees had the same students throughout the treatment.

The teacher trainees age ranged from 21 to 30 years. They were day scholars. Of these 52 teacher trainees 32 were from urban background and 20 from rural. Amongst them 22 were post-graduate in pure discipline and 30 teacher trainees were under-graduate. Thirty one teacher trainees’ language background was Hindi and 21 had English language background. These teacher trainees were admitted to the teacher training institute after the entrance examination conducted by PTET, Rajasthan.
6.8.0 DESIGN

In the pretext of unfamiliarity of M-learning in teacher education single group post design is taken. So the design of the study is one group factorial design. So the design of the study is one group factorial design. It is designed on the lines of Post-Test Experimental Design. The treatment included Mobile Knowledge Management which has combined moderators with two levels of factors. Thus independent variable (here MKM) and interaction effect of moderator has been studied on Pedagogic Performance dependent variable.

Under this program exercises planned based on M-knowledge management incorporated features which used different techniques. The distribution of M-Knowledge Management features and inclusive techniques lesson are given in table 6.2.

Table 6.2. Distribution of M-Knowledge Management features with techniques

<table>
<thead>
<tr>
<th>M-Knowledge Management Features</th>
<th>Application Techniques Of M-KM</th>
<th>Focused Lesson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognizing</td>
<td>Search Engines</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Websites</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apps</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blogs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Google Maps</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Videos and Images</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social Networking (Whats app)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YouTube</td>
<td></td>
</tr>
<tr>
<td>Storing</td>
<td>Notepad</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Gallery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Multimedia player</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Office suit</td>
<td></td>
</tr>
</tbody>
</table>
From Table 6.2, it is depicted that M-Knowledge Management consists of five features. Each feature comprised certain managing technique around which a number of exercises have been developed. These exercises are grouped according to mobile features which have been given in Appendix 1. The mobile features with respective techniques were implemented during the experiment. The schematic presentation of experiment is given in Table 6.3.

6.9.0 PROCESS
As mentioned earlier in the pretext of unfamiliarity of M-learning in teacher education single group post design was taken. So the design of the study is one Group Factorial
Design. Where mobile knowledge management was the treatment given phase wise to see its effect on pedagogic performance. Phase wise treatment including activities and duration is presented in table 6.3.

**TABLE 6.3. Schematic presentation of Experiment**

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Activities</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td><strong>Pre Study Requisite</strong>&lt;br&gt;3. List of Teacher Training Institution (TTI) Functioning in Kota&lt;br&gt;4. Selection of one TTI</td>
<td>2 days</td>
</tr>
<tr>
<td>II</td>
<td><strong>Instrument Selection &amp; Development</strong>&lt;br&gt;3. Procurement of Tool&lt;br&gt;  b. Teacher Effectiveness Scale&lt;br&gt;4. Tool Development&lt;br&gt; a. Knowledge Management Inventory&lt;br&gt;  b. Teaching Assessment Scale&lt;br&gt;  c. Teachers Performance Questionnaire&lt;br&gt;  d. M-Knowledge Management Program Reaction Scale</td>
<td>60 Days</td>
</tr>
<tr>
<td>III</td>
<td><strong>ORIENTATION</strong>&lt;br&gt;3. Briefing of Mobile Knowledge Management (M-KM) as:&lt;br&gt;  ● Primary Source&lt;br&gt;  ● Support&lt;br&gt;4. Designing M-KM assisted Lessons</td>
<td>180 minutes</td>
</tr>
<tr>
<td>First Cycle of Treatment</td>
<td>Practice Phase</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Formation of Groups</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Simulated Teaching</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Facility of 27 techniques</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Practice of 4 skill per day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>360 minutes</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Cycle of Treatment</th>
<th>IMPLICATION PHASE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C. First Round</td>
</tr>
<tr>
<td></td>
<td>- Formation of Groups of School Students</td>
</tr>
<tr>
<td></td>
<td>- Allotment of School &amp; Section</td>
</tr>
<tr>
<td></td>
<td>- Designing of M-KM lessons</td>
</tr>
<tr>
<td></td>
<td>- Transaction of lessons</td>
</tr>
<tr>
<td></td>
<td>b. Practicing of 13 technical applications 1 lesson per day</td>
</tr>
<tr>
<td></td>
<td>- Sharing of feedback</td>
</tr>
<tr>
<td></td>
<td>840 minutes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pre-Testing of Reaction Towards M-KM Program</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Administration of M-Knowledge Management Reaction Scale</td>
</tr>
<tr>
<td></td>
<td>30 minutes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Cycle of Treatment</th>
<th>D. Second Round</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Redesigning of M-KM lessons (Mobile as Primary Source)</td>
</tr>
<tr>
<td></td>
<td>- Practice of 14 technical applications by following The procedure of second cycle of the treatment</td>
</tr>
<tr>
<td></td>
<td>720 minutes</td>
</tr>
<tr>
<td>Post-Testing of Reaction Towards M-KM Program</td>
<td>• Administration of M-Knowledge Management Reaction Scale</td>
</tr>
<tr>
<td>Assessment of M-KM</td>
<td>• Administration of M-Knowledge Management Inventory</td>
</tr>
<tr>
<td>Assessment of Pedagogic Performance</td>
<td>• Administration of Teacher Performance Questionnaire</td>
</tr>
<tr>
<td></td>
<td>• Administration of Teaching Assessment Scale</td>
</tr>
<tr>
<td>Assessment of Teacher Effectiveness</td>
<td>• Administration of Teacher Effectiveness Scale</td>
</tr>
</tbody>
</table>

As presented in table 6.3, the first cycle was prerequisite for the present study, where teacher training institute (TTI) running bachelor education program were identified in kota district. The information related to TTI was available on internet but different websites showed different information about the number of TTI in kota district. Therefore investigator made use of the list provided by National Council for Teacher Education (NCTE). Thereafter, 25 TTI were identified in Kota district out of which one of the TTI was randomly selected through lottery system for the present study. The teacher trainees of batch 2014 having social science and language were invited to participate in the study. The willing 52 teacher trainees were the subject of the study.
The second cycle was for instrument selection and development. Variable wise instrument were selected and developed to measure the objectives of the study. Other than Teacher Effectiveness Scale to measure teacher effectiveness no other tool could be found to measure M-Knowledge Management or Pedagogic performance in reference to M-learning, so the tools to measure these variables were developed.

**M-Knowledge Management Inventory** was developed to measure Mobile Knowledge Management of teacher trainees. For respective tool, factors and components related to M-Knowledge Management were identified. Then a preliminary draft of the inventory was prepared, with the consultation of 20 experts. The data collected were further analyzed. According to attained data few items were modified. It was than given to 6 experts for validity. The final draft was made according to the experts’ feedback. The final draft was finally administered amongst 175 participants for taking out the reliability.

Pedagogic performance had to be measured by the teacher trainees and the school students. The two tools **Teachers Performance Questionnaire** for teacher trainees and **Teaching Assessment Scale** for school students were developed. Primarily, factors related to teacher performance were searched for Teachers Performance Questionnaire and items were constructed. This completed the preliminary draft of the tool. To standardize the questionnaire, 6 experts were consulted and according to their response the questionnaire was further modified. Lastly questionnaire was administered among 200 participants and data were further analyzed for reliability of the questionnaire.

Similarly to develop Teaching Assessment Scale in reference to teacher’s pedagogic performance, factors related to teachers’ dissemination of lesson were identified and items were constructed. This preliminary draft of the tool was given to six experts. After getting their response the scale was further modified and re-evaluated. According to experts views the validation of tool was carried out.

Lastly **M-Knowledge Management Reaction Scale** was developed to measure reaction of teacher trainees in reference to M-Knowledge Management Program. For
developing the respective tool, factors and components related to M-Knowledge Management were identified and the preliminary draft of the tool was prepared which was further given to 6 experts for the validation of tool. According to the data obtain validity was attain. Detailed description of tools is given under the heading 3.4.0. This completed the second cycle which took 60 days.

The III cycle, was orientation in this cycle preliminary briefing of M-Knowledge Management in respect to mobile as primary source was given. The second day orientation on Knowledge management of mobile as support was taken up. The third orientation was given in designing mobile knowledge management assisted lessons this cycle was completed in 180 minutes.

After the completion of orientation cycle the fourth cycle commenced. The fourth cycle included practice phase in which the small groups were formed. In groups simulated teaching was carried out. In this phase facility of 4 techniques per day were observed while carrying out practice of skills. In total 27 skills were taken up. this first phase took 360 minutes for its completion.

The second phase of fourth cycle was implication phase which was carried out in two rounds. In the first round the allotment of school was carried out and section wise group of school students were allotted to the respective teacher trainee. Thereafter M-KM lessons were designed where mobile was taken as a primary source. The consequent day dissemination of M-KM lessons was taken up, through these lesson practice of 13 technical applications per lesson per day was carried out. After every lesson transaction the feedback obtained were shared and used for preparing next lesson. This completed the first round of implication phase which took 840 minutes.

After completion of the first round of implication phase pre testing of reaction towards M-KM program was assessed. M-KM reaction scale was administered amongst the teacher trainees to assess their reaction towards M-Knowledge Management. This took around 30 minutes.
After assessing the pre-reaction towards M-knowledge Management Program the second round of implication phase was taken up. In this round re-designing of M-KM lesson were taken up. These lessons were designed in reference to mobile as a secondary source. Practice of 14 technical applications was carried out following the procedure of first round of the implication phase. The completion of second round took 720 minutes. This completed the fourth cycle.

After the completion of fourth cycle, assessment of mobile knowledge management was carried out by administrating M-knowledge Management Inventory. This knowledge management inventory was completed in 30 minutes.

The next day teacher performance questionnaire was administered to assess the pedagogic performance this questionnaire was administered on teacher trainees. The questionnaire was completed in 45 minutes.

The next day was given for the administration of Teaching Assessment Scale which was meant for school students. This scale administration was completed in 45 Minutes.

This followed post-testing of reaction towards M-Knowledge Management. For knowing the reaction towards M-Knowledge Management program administration of M-Knowledge Management reaction scale was taken up which took up 30 minutes to complete it.

Lastly testing of teacher effectiveness was done by administration of teacher effectiveness scale. This assessment took up around 30 minutes.

The collected data were further organized and analyzed aspect wise. For analyzing data it was first converted into numeric form by scoring then the total scores
of different tools were treated with appropriate tests like ANOVA two way and t-test. Afterwards receiving results they were interpreted and generalized accordingly.

6.10.0 TOOLS

The variables assessed in the study were M-knowledge management, teacher effectiveness, m-pedagogic performance and reaction towards M-Knowledge Management program. Teacher effectiveness a standardized tool, M-Knowledge Management, pedagogic performance and reaction toward M-Knowledge Management were assessed with the help of tools developed by the investigator. The brief details related to the standardization of M-KM Inventory, Teaching Assessment Scale, Teachers Performance Questionnaire and M- Reaction Scale and standardized tools are given below:

The Mobile-Knowledge Management of teacher trainees was measured through M-Knowledge Management Inventory. M-Knowledge Management had to be assessed for categorizing the teacher trainees according to their skills of M-Knowledge Management. A pilot study was conducted on 20 lecturers and Asst. Professors. On the basis of accumulated data a final draft was constructed. And final tool consist of five dimensions, and each dimension includes three items. A systematic procedure was opted for its standardization.

Two types of validity namely, content and construct were considered. For content validity six experts were consulted. Tools constituted of 21 items. Content validity ratio (CVR) was calculated for each item. The CVR was found .85.

To assess construct validity tool was administered on 175 teacher trainees from different colleges of education. Inter – correlation among various dimension of M-Knowledge Management Inventory was calculated between the ranges of .29 to .76. And the mean value of five correlation coefficients was .67 which represents its construct validity. Reliability of M-Knowledge Management Inventory was measured
by split-half method which is .73. Tools development and standardization in detail is described in chapter III.

Self-performance assessment questionnaire was developed to measure performance. Performance had to be assessed to categorize teacher trainees according to their different way of disseminating content, student’s response to their performance, cost effectiveness in their teaching and attainment of teaching objectives, so that their performance could be measured. A pilot study was conducted on lecturers and Asst. Professors. On the basis of accumulated data a final draft was constructed. And final tool consists of four dimensions, and each dimension includes six items. A systematic procedure was opted for its standardization.

Two types of validity namely, content and construct were considered. For content validity six experts were consulted. Tools constituted of 24 items. Content validity ratio (CVR) was calculated for each item. The CVR was found +.72.

To assess construct validity tool was administered on 200 teacher trainees from different colleges of education. Inter – correlation among various dimension of Self-Performance Assessment Questionnaire was calculated between the ranges of .32 to .81. And the mean value of four correlation coefficients was .73 which represents its construct validity. Reliability of Teacher Performance Questionnaire was measured by split-half method which is .71. Tools development and standardization in detail is described in chapter III. The detailed description of tool is mentioned in chapter III.

Teaching Assessment Scale was developed to measure performance of teacher trainees on the basis of responses collected from school students. This tool was developed to assess performance of teacher trainees and to categorizes them on the basis of their content delivery, choice of strategy, selection of media and means of assessment. For validation of this tool six experts were contacted, accordingly items were selected and modified. Tools constituted of 24 items. Content validity ratio (CVR) was calculated for each item. The CVR was found +.64.
To assess construct validity tool was administered on 6 experts from different colleges of education. Inter – correlation among various dimension of Teacher’s Performance Questionnaire was calculated between the ranges of .54 to .89. And the mean value of four correlation coefficients was .83 which represents its construct validity. Reliability for the present tool is not drawn out because study is interventional in nature and participants for the present tool where not known to M-Knowledge Management Program. The detailed description of the tool is given in chapter III.

To measure the effectiveness in teaching of teacher trainees on their own teacher effectiveness scale was used. The above mentioned tool is developed by Dr. Shallu Puri and Prof. S.C. Gakhar in year 2010 that is meant for self-assessing the teacher’s effectiveness. This tool has six bordered categories namely, Academic and professional knowledge, preparation and presentation of lesson plan, classroom management, attitude towards parents, colleagues and head of institution, use of motivation, reward and punishment, interest in all round development of student, result feedback accountability and personal qualities. This tool has been standardized on graduate level teachers. Detailed description of the tool is given in chapter III.

Reaction towards the M-Learning program was measured through M-Learning Knowledge Management reaction scale. This tool was developed to assess the reaction of teacher trainees about Mobile-Learning Knowledge Management program. For validation of the tool six expects from the field of education, psychology and computer science were contacted and after receiving response from them accordingly modifications were made. Tools constituted of 12 items. Content validity ratio (CVR) was calculated for each item. The CVR was found +.65. The detailed description of the tool is given in chapter III.
6.11.0 DATA ANALYSIS

The data analysis of the study was carried out as follows:

1. For studying the effect of M-Knowledge Management in terms of Pedagogic Performance mean, SD and CV are used.

2. For studying the effect of M-Knowledge Management on Pedagogic Performance t-test is used.

3. A 2 x 2 factorial design ANOVA is used for studying the effect of M-Knowledge Management, Residential background and their interaction on Pedagogic Performance amongst teacher trainees.

4. A 2 x 2 factorial design ANOVA is used for studying the effect of M-Knowledge Management, Language Background and their interaction on Pedagogic Performance amongst teacher trainees.

5. A 2 x 2 factorial design ANOVA is used for studying the effect of M-Knowledge Management, Educational background and their interaction on Pedagogic Performance amongst teacher trainees.

6. A 2 x 2 factorial design ANOVA is used for studying the effect of M-Knowledge Management, Teacher Effectiveness and their interaction on Pedagogic Performance amongst teacher trainees.

7. The t-test is used for studying the Change in Reaction towards M-Knowledge Management Program amongst teacher trainees treated through M-Knowledge Management Program.
6.12.0 FINDINGS

The findings of the study are as given below:

1. M-Knowledge Management had an effect on Pedagogic Performance amongst teacher trainees.

2. School Students found Pedagogic Performance of teacher trainees to be more effective than teacher trainees themselves.

3. Teacher trainees possessing high M-Knowledge Management performed better Pedagogically than those having low M-Knowledge Management.

4. Teacher trainees belonging to urban background possessed high Pedagogic Performance than teacher trainees from rural background.

5. The scores of Pedagogic Performance were less differed between the teacher trainees from urban and rural background having high and low M-Knowledge Management.

6. Language and educational background did not influence significantly the pedagogic performance.

7. Pedagogic Performance of teacher trainees with high Teacher Effectiveness was better than those being low teacher effective.

8. The difference of Pedagogic Performance between high and low Teacher Effectiveness was found to be less.

9. Teacher trainees’ reaction towards M-Knowledge Management program was found to be favorable which increased by the end of the program.
10. Teacher trainees’ pedagogic performance was not effected by interaction between M-Knowledge Management and Residential Background.

11. Pedagogic Performance was independent from the effect of interaction between M-Knowledge Management and Educational Background.

12. Teacher trainees’ pedagogic performance was not effected by interaction between M-Knowledge Management and Language Background.

13. The Pedagogic Performance was independent of interaction effect between M-Knowledge Management and Teacher Effectiveness.

6.13.0 EDUCATIONAL IMPLICATIONS

The educational implication of the present study is in terms of its benefits for curriculum designing, Administrator, Higher Education, Teacher Trainee’s, Schools, Learners, Teacher’s and Guardians which I elaborated in chapter V.

6.14.0 LIMITATION

1. The study was conducted on teacher trainees of pre-service teacher training program in Kota, District.

2. Apart from M-learning knowledge management residential background, medium of instruction, educational level and teaching effectiveness was taken as independent variables.

3. Pedagogic Performance was conducted in social science and language subjects.

4. The treatment was performed in schools in two rounds after the interval of 43 days.
6.15.0 FURTHER STUDY

The further studies related to this research are as follows:

1) Effectiveness of other mobile devices like ipad and tablets on teaching and learning outcomes can be measured.
   (Reason: ipad and tablets have bigger screen for better display to read content, to watch videos and definitely for browsing web which provides real virtual experience that can also affect pedagogic performance.)

2) M-learning effectiveness amongst in-service teachers can be carried out.
   (Reason: In-service teachers can do a lot with mobile device like notifying parents, developing classroom management, planning and pursuing various activities with students, use of blogging and educational app that can enhance their performance.

3) Study including other factors like age group, sex, economic status and technology access can be taken into account to measure M-learning efficacy.
   (Reason: Factors like sex, age of person, social-economic status and their accession to technology can also affect pedagogic performance among teachers.

4) Case study can be taken up at the institution where M-learning program is already executing.
   (Reason: Any institution pursuing M-learning for teaching and learning process over the time can also effect teacher’s pedagogic performance.)
5) M-learning effectiveness in context to informal, non-formal or NGOs based education can be carried out. (Reason: informal and non-formal education works on totally different principles like no definite place, flexible curriculum and methodology especially designed for learners with specific need and interest according to their work pace it can also effect pedagogic performance of their instructors.)