EDMODO AS A TOOL OF LEARNING: PERCEPTIONS OF PUPIL-TEACHERS OF UNIVERSITIES IN LUCKNOW

SUMMARY

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SUMMARY

1.0 Introduction

Education today demands multicultural learning and vibrant interactions for sound knowledge of the concepts. Educational technology has a potential to bring change in the teaching-learning process. It inculcates collaborative and engaged learning that helps learners to navigate large volumes of information, learn faster and retain information. Educational technology empowers teachers and learners to access resources beyond classroom and to become critical and reflective thinkers by collaborating and creating new knowledge. The COVID-19 pandemic has made it evident how technology is the future of education and how it will revolutionize and globalize the process of education. Educational technology aids in creating dynamic blended learning environments to engage and stay connected with each and every student. Educational technology can assist and encourage teachers to achieve new levels of prolificacy in teaching and learning. Active and interactive learning engagement happens with technology as learners involve themselves in interaction and receive feedback from other learners and teachers. Learners can express themselves freely on online learning platforms. The plethora of information available on the Internet pertaining to any subject help a teacher to present a wider perspective on the subject matter and thus, helps to develop the analytical skills of learners.

It is evident from above that a pupil-teacher can build his/her own perspective of being exposed to a broader pool of information and develop critical and reflective thinking skills. Pupil-teachers can focus on vivid approaches of optimize their skills by connecting to facilitated and collaborative learning environments. There is a constant need to effectively and efficiently use of technology resources and enrich the

learning experiences for learners at all levels of education. To ensure this, pupil-teachers should be acquainted and trained with various digital teaching-learning tools.

1.1 Edmodo and Pupil-teacher

Edmodo is a free social learning platform that merges content and assessment and offers a safe classroom communication environment. Edmodo ensures increased student engagement, improve lesson planning, imbibe innovative teaching methods acquaint with efficient assessment methods with instant feedback and results.

Pupil-teachers trained in educational technology tools like Edmodo would be able to impart better quality Education in term of reachability and output. Edmodo provides rich teaching learning experience and helps teachers, students and learners. Pupil-teachers must equip themselves with innovative and advance methods of teaching and learning like Edmodo to become multi-skilled innovative teachers and handle phenomenally changing and crisis driven or pandemic learning environments all times.

1.2 Statement of the Problem

"Edmodo as a Tool of Learning: Perceptions of Pupil Teachers of Universities in Lucknow"

1.3 Terms defined

Edmodo

It is a web 2.0 tool. It's a free and easy to use web application, which comes up with multiple unique features. Geared more towards teachers, it's a great tool for teaching online with safety and privacy.

Perception

Perception is the process of selecting, organizing and interpreting information. It is about how an individual perceives the people or the objects around him which affect his communication.

Effective Learning

Effective learning is the willingness, desire and temptation for learning on Edmodo.

Learner Engagement

Learner Engagement is to engage and explore various features of Edmodo to deepen learning and connection with the teaching-learning process.

Instructional Resources

Instructional Resources are the educational resources of Edmodo which help pupil-teachers to improve their knowledge, abilities and skills.

Barriers of use of Edmodo

Barriers of use of Edmodo refer to the hurdles in use of Edmodo in active teaching-learning process.

ICT Resources

Information and Communication Technology (ICT) is the diverse set of digital resources to create, store and share information with reference to Hardware Resources, Software Resources and Online Resources.

Hardware Resources

Hardware Resources are the resources or equipment or assignable addressable bus paths which facilitate peripheral devices and system processors to communicate for effective pupil-teachers teaching-learning process. These resources refer to physical or visible components.

Software Resources

Software Resources are those software/applications (operating system, database management systems etc) which are used to operate different utilities for effective teaching learning process.

Online Resources

Online resources are the resources (apps or webpages) which are available online and enhance pupil-teachers teaching-learning skills.

Pupil-Teacher

The pupil-teacher means, the student, who plans to become a teacher and who learns how to teach by undertaking teaching responsibility under the supervision of a head teacher.

1.4. Need and Significance of the Study

Education today is a lot more complex which involves not just the teaching learning process but an experience to gain knowledge and skills. The rapid changes in the curriculum system necessitated sea changes in the content and delivery of instruction and learning environment bringing a paradigm shift from direct teaching to facilitated, collaborative and personalized learning.

Edmodo, a web 2.0 tool provides rich teaching learning experience and helps in competency-based multimedia assessment integrated teaching learning a reality. This tool provides the feature to share any type of content with other users and get access to materials shared by others. One can also connect with Google or Microsoft account from Edmodo and transfer files from one service to another.

Pupil-teachers who prepare themselves for the teaching profession must enrich themselves with Information Communication and Technology (ICT) Resources and brace themselves with tools like Edmodo and make learning facilitated and interesting. Edmodo provides a platform for pupil-teachers to connect, collaborate and share educational content. Edmodo enables differentiated instructions with features like small groups and shared folders. Edmodo supplements the teaching learning process and universities being the centers of learning should encourage and provide more space for multi-cultural and phenomenally changing learning environments so that pupil-teachers can become triumphant, proficient, adroit, competent and versatile teachers of future India.

1.5. Objectives of the Study

1. To study the pupil-teachers use of Information and Communication Technology Resources.
2. To study pupil-teachers perceptions of use of Edmodo as a tool of learning.
3. To find out the pupil-teachers use of Information and Communication Technology Resources with respect to Gender, Residence, Stream, Type of University
4. To find out pupil-teachers perceptions of use of Edmodo as a tool of learning with respect to Gender, Residence, Stream, Type of University
5. To study the relationship between pupil-teachers Perceptions of Edmodo as a tool of learning and use of Information and Communication Technology Resources

1.6 Hypotheses

1. There is no significant difference in pupil-teachers use of Information and Communication Technology Resources with respect to Gender.

1.1 There is no significant difference in pupil-teachers use of Hardware Resources of Information and Communication Technology with respect to Gender

1.2 There is no significant difference in pupil-teachers use of Software Resources of Information and Communication Technology with respect to Gender

1.3 There is no significant difference in pupil-teachers use of Online Resources of Information and Communication Technology with respect to Gender

2. There is no significant difference in pupil-teachers use of Information and Communication Technology Resources with respect to Residence.

2.1. There is no significant difference in pupil-teachers use of Hardware Resources of Information and Communication Technology with respect to Residence

2.2. There is no significant difference in pupil-teachers use of Software Resources of Information and Communication Technology with respect to Residence

2.3. There is no significant difference in pupil-teachers use of Online Resources of Information and Communication Technology with respect to Residence

3. There is no significant difference in pupil-teachers use of Information and Communication Technology Resources with respect to Stream

3.1. There is no significant difference in pupil-teachers use of Hardware Resources of Information and Communication Technology with respect to Stream

3.2. There is no significant difference in pupil-teachers use of Software Resources of Information and Communication Technology with respect to Stream

3.3. There is no significant difference in pupil-teachers use of Online Resources of Information and Communication Technology with respect to Stream

4. There is no significant difference in pupil-teachers use of Information and Communication Technology Resources with respect to Type of University

4.1. There is no significant difference in pupil-teachers use of Hardware Resources of Information and Communication Technology with respect to Type of University

4.2. There is no significant difference in pupil-teachers use of Software Resources of Information and Communication Technology with respect to Type of University

4.3. There is no significant difference in pupil-teachers use of Online Resources of Information and Communication Technology with respect to Type of University

5. There is no significant difference in pupil-teachers Perceptions of use of Edmodo as a tool of learning with respect to Gender

5.1. There is no significant difference in pupil-teachers Perceptions of Effective Learning use of Edmodo as a tool of learning with respect to Gender

5.2. There is no significant difference in pupil-teachers Perceptions of Learner Engagement use of Edmodo as a tool of learning with respect to Gender

5.3. There is no significant difference in pupil-teachers Perceptions of Instructional Resources use of Edmodo as a tool of learning with respect to Gender

5.4. There is no significant difference in pupil-teachers Perceptions of Barriers of use of Edmodo as a tool of learning with respect to Gender

6. There is no significant difference in pupil-teachers Perceptions of use of Edmodo as a tool of learning with respect to Residence

6.1. There is no significant difference in pupil-teachers Perceptions of Effective Learning use of Edmodo as a tool of learning with respect to Residence

6.2. There is no significant difference in pupil-teachers Perceptions of Learner Engagement use of Edmodo as a tool of learning with respect to Residence

6.3. There is no significant difference in pupil-teachers Perceptions of Instructional Resources use of Edmodo as a tool of learning with respect to Residence

6.4. There is no significant difference in pupil-teachers Perceptions of Barriers of use of Edmodo as a tool of learning with respect to Residence

7. There is no significant difference in pupil-teachers Perceptions of use of Edmodo as a tool of learning with respect to Stream

7.1. There is no significant difference in pupil-teachers Perceptions of Effective Learning use of Edmodo as a tool of learning with respect to Stream

7.2. There is no significant difference in pupil-teachers Perceptions of Learner Engagement use of Edmodo as a tool of learning with respect to Stream

7.3. There is no significant difference in pupil-teachers Perceptions of Instructional Resources use of Edmodo as a tool of learning with respect to Stream

7.4. There is no significant difference in pupil-teachers Perceptions of Barriers of use of Edmodo as a tool of learning with respect to Stream

8. There is no significant difference in pupil-teachers Perceptions of use of Edmodo as a tool of learning with respect to Type of University

8.1. There is no significant difference in pupil-teachers Perceptions of Effective Learning use of Edmodo as a tool of learning with respect to Type of University

8.2. There is no significant difference in pupil-teachers Perceptions of Learner Engagement use of Edmodo as a tool of learning with respect to Type of University

8.3. There is no significant difference in pupil-teachers Perceptions of Instructional Resources use of Edmodo as a tool of learning with respect to Type of University

8.4. There is no significant difference in pupil-teachers Perceptions of Barriers of use of Edmodo as a tool of learning with respect to Type of University

9. There is no significant relationship between Perceptions of use of Edmodo as a tool of learning (Effective Learning, Learner Engagement and Instructional Resources and Barriers of use of Edmodo) and Use of Information and Communication Technology Resources (Hardware Resources, Software Resources and Online Resources)

9.1 There is no significant relationship between pupil-teachers perception of Effective Learning use of Edmodo as a tool of learning and use of ICT resources (Hardware Resources, Software Resources and Online Resources)

9.2 There is no significant relationship between pupil-teachers perception of Learner Engagement use of Edmodo as a tool of Learning and use of ICT resources (Hardware Resources, Software Resources and Online Resources)

9.3 There is no significant relationship between pupil-teachers perception of Instructional Resources use of Edmodo as a tool of learning and use of ICT resources (Hardware Resources, Software Resources and Online Resources)

9.4 There is no significant relationship between pupil-teachers perception of Barriers of use of Edmodo as a tool of learning and use of ICT resources (Hardware Resources, Software Resources and Online Resources)

1.7 Delimitations of the study

1. The present study is delimited to pupil-teachers of the Department of Education in Universities only.
2. The present study is delimited to pupil-teachers of B.Ed. Course only.
3. The present study is delimited to Hardware Resources, Software Resources and Online Resources dimensions of use of Information and Communication and Technology (ICT) Resources.

4. The present study is delimited to Effective Learning, Learner Engagement and Instructional Resources and Barriers of use of Edmodo as a tool of learning.

2. Research Methodology

2.1 Population of the Study

Population of the study is a group of individuals with one or more common characteristics related to the researcher's interest group (Kumar, 2011). The population of the study consists of the pupil-teachers who are Edmodo user and were enrolled in different universities in Lucknow, where B.Ed. course is offered.

2.2 Sample and Sampling Technique

This is the procedure of selecting a representative population for the study. The procedure of sampling technique adopted is defined here. "Sample is the part of the population studied to make inference about population" (Manheim, 1977). In this study, three universities are selected using simple random sampling techniques. Further a sample of 350 pupil-teachers were selected from all the three universities using simple random sampling techniques.

2.3 Variables

Variables are defined as those attributes of objects, things and events which can be measured. Variables have characteristics or conditions that can be manipulated, controlled or observed by the researcher (Singh, A.K.; 2017). It is of two types;

Dependent variable

The dependent variable is defined as one which is having characteristics that appear when the researcher changes or manipulated the independent variable. In this study dependent variable is;

- Use of ICT resources
- Perceptions of Use of Edmodo as a tool of Learning

Independent variable

An Independent variable is defined as one which is manipulated, measured or observable changes according to the dependent variable. In this study, the Independent variable is:

- Gender
- Residence
- Stream
- Type of University

2.4 Research Tool

In any research, research tools play a significant role. The worth of data collection completely depends on the sensitivity of the tools. However, every care has been taken to construct a comprehensive questionnaire for the study of investigation, keeping in view the objectives and hypothesis of the study. According to selected objectives and hypothesis researcher had constructed two tools for the study. These tools are;

Tool 1: Use of Information and Communication Technology Resources Scale (UICTRS)

Tool 2: Perceptions of Use of Edmodo as a Tool of Learning Scale (PUETLS)

2.5 Statistical Techniques

In the present study, the following statistical measures percentage (P), mean (M) and standard deviation (SD), student 't' test and ANOVA test were used to determine the difference and Pearson's correlation is used to determine correlation between Use of ICT Resources and Perceptions of Edmodo as a tool of learning.

3. Data Analysis

The descriptive Survey method is used in this study. Quantitative approach found suitable for analyzing the data.

4.1 Findings and Educational Implications

- **Pupil-Teachers use of Information and Communication Technology Resources**

Pupil-teachers use of ICT resources was analysed in three dimensions- Hardware Resources, Software Resources and Online Resources. Pupil teachers always and often opt for hardware resources like a personal computer (64%), mobile devices helpful in teaching (81%), and tablets handy and helpful in teaching-learning (73%). Pupil teachers also prefer that a smart board is more suitable than a whiteboard (66%), a Kindle device found suitable for reading books (75%), projector suitable for teaching-learning purposes (80%). Storage devices found suitable for the storage of data (81%), speakers/microphones facilitate online learning (83%). Use a wireless router to internet speed (75%), TV/ Radio found useful for learner (78%).

The pupil-teachers opine that software resources supports them in teaching-learning process. Pupil-teachers found Educational Software always useful for teaching (83%), Google forms/docs for assessment (78%), pupil-teachers prefer

online teaching-learning saves a lot of time and effort (70%). Web conferencing is helpful for connecting the large number of students at a time (82%). MS Office is useful for online work (75%), sharing documents is easy via Google drive (70%), and online free journals are helpful for upgrading knowledge (83%).

Pupil teachers also opine that online resources often meet their requirements. Pupil-teachers use these applications to solve their educational needs DIKSHA(39%), SWAYAM (45%), Swayam Prabha (34%), NPTEL (37%), E-PG Pathshala (37%), Shodhganga (36%), E-Shodh Sindhu (39%), Spoken tutorials (36%), Virtual Labs (35%), e-Gyankosh (43%). Pupil-teachers often or frequently use the applications of Twitter (38%), Facebook (70%), Instagram (72%), WhatsApp (83%), Google meet (85%), Gmail (73%), LinkedIn (38%), Google+ (60%), Google Classroom (76%), Zoom (62%). Pupil teachers also often and the majority prefer to search online content through Google (97%), Wikipedia (72%), Youtube (95%), Research Gate (45%), NDLI (30%), JSTOR (23%), Google Scholar (33%), ERIC (25%), IGNOU e-Content (55%), University/Institutional Library (53%). The above findings indicates that through there are some problems in using Edmodo they can be overcome and the percentage of pupil-teachers who strongly agree is less in compared to pupil-teachers who strongly disagree.

Mirzani, H. et.al. (2016) findings show that ICT competency and resources and instrumental in online teaching and learning validating the current study findings.

- **Pupil-Teachers Perceptions of Use of Edmodo as a Tool of Learning.**

Pupil-teachers perceptions of use of Edmodo as a tool of learning was analyzed under four dimensions- Effective Learning, Learner Engagement, Instructional Resources and Barriers of use of Edmodo. Pupil-teachers strongly agree

and agree that Edmodo is user-friendly (79%), Edmodo interface is similar to social media platform (80%), Edmodo can be accessed anywhere-anytime (76%) enhances critical thinking ability (69%), make submission of assignment easy (83%), reduces learning cost (75%), helps to access material when absent (82%), and to learn at their own pace (82%), helps to find different knowledge and information (81%), Edmodo gives proper notification for every task (79%), auto-grading system motivates learners (79%).

The pupil-teachers further strongly agree and agree that Edmodo helps to improve classroom experience (81%), Edmodo connects teachers and learners (78%), and teaching takes less time and effort (79%). Edmodo is illuminating and edifying (70%), Edmodo interface is convenient and fast (81%), the interaction of learner-teacher-parents easy on Edmodo (81%), effective real time quiz session for learner (82%), Deadline task helps students to complete tasks on time (79%), small group feature gives easy interaction (82%), badges feature in Edmodo is very motivating (82%). Use of icon for feedback motivates learners (81%), setting fixed time frame agendas to encourage learners (81%), Edmodo helps to get immediate feedback from teachers (80%), Edmodo sharpens comprehension and discussion skills (80%), Edmodo gives a platform to share and exchange instructional material (80%), immediate feedback helps in identifying the strengths and weaknesses of students (82%).

The pupil-teachers still further strongly agree and agree that reference material/content uploaded in any format is accessible on Edmodo (83%), Edmodo provides global scope for the exchange of knowledge and interaction with faculty (81%), Edmodo supports collaborative learning through working in groups (85%).

access to previous work in the library is helpful (80%), and notification for due dates of assignments and quizzes (83%). Edmodo creates a blended learning environment with effective interaction (83%), pupil-teachers are overwhelmed by the wealth of information and resources on Edmodo (79%), learning resources and assignment grades preservation features are extremely helpful (85%), exclusive subject specific search feature is helpful for the learner (86%).

The pupil-teachers strongly agree and agree on Barriers of use of Edmodo as a tool of learning that high-speed internet facility is compulsory for Edmodo (31%), Edmodo is complex to master (32%), Edmodo mobile version is difficult for effective navigation and typing (18%), learners' feels rushed for the fixed time frame in quizzes (28%), online activities like discussion, quiz and assignment are time-consuming tasks (26%), notifications for every task were regular (20%), local language nonavailability is not a barrier for effective use of Edmodo (29%), virtual existence of teachers can be easily replaced on Edmodo (25%), Edmodo user account is easy to handle (24%), Interpretation of learners behavior is easy on Edmodo (27%), Sudden power cut creates obstacles in tasks (30%). Join class easily at any time (28%), Parents interaction is meagre on Edmodo (26%), knowledge of computers is not necessary for effective use of Edmodo (27%), Uploading large size files/assignments is easy on Edmodo (26%).

Mokhtar, F.A. (2018) found that Edmodo breaks barriers with a suitable learning environment and mobility for learning beyond the classroom. Al-Said, K.M. (2015) found that the problem of low mobile batteries and difficulty in storing large-size files also supports current study findings.

4.1 Variable-wise Findings of Pupil-Teachers Use of Information and Communication Technology Resources.

4.1.1 Gender

- There was no significant difference in pupil-teachers use of Hardware Resources of Information and Communication Technology with respect to Gender
- There was no significant difference in pupil-teachers use of Software Resources of Information and Communication Technology with respect to Gender
- There was no significant difference in pupil-teachers use of Online Resources of Information and Communication Technology with respect to Gender

Conclusion

The pupil-teachers needs and information exploration will be same as both male and female pupil teachers acquire same skills and practice in same environment and are exposed to same academic activities. Thus, there was no significant difference in their use of information and communication technological resources as both pursue their studies in similar academic conditions and expectations.

4.1.2 Residence

- There was no significant difference in pupil-teachers use of Hardware Resources of Information and Communication Technology with respect to Residence
- There was no significant difference in pupil-teachers use of Software Resources of Information and Communication Technology with respect to Residence

- There was significant difference in pupil-teachers use of Online Resources of Information and Communication Technology with respect to Residence

Conclusion

The hosteller and non-hosteller pupil-teachers are guided by their academic pursuits and course requirements. Since the use of various ICT resources will be guided by their respective course objectives and learning needs there is no significant difference between hosteller and non-hosteller pupil-teachers use of ICT resources.

4.1.3 Stream

- There was no significant difference in pupil-teachers use of Hardware Resources of Information and Communication Technology with respect to Stream
- There was no significant difference in pupil-teachers use of Software Resources of Information and Communication Technology with respect to Stream
- There was significant difference in pupil-teachers use of Online Resources of Information and Communication Technology with respect to Stream

Conclusion

Educational needs of science and social science stream pupil-teachers are different, practical learning experiences and supporting material resources are different. But still the hardware and software resources requirement would be same to some extent. Pupil-teachers explore different suitable online resources as per their educational and pedagogy requirements which results in significant differences of use of online resources of information and communication technology.

4.1.4 Type of University

- There was significant difference in pupil-teachers use of Hardware Resources of Information and Communication Technology with respect to Type of University
- There was significant difference in pupil-teachers use of Software Resources of Information and Communication Technology with respect to Type of University
- There was no significant difference in pupil-teachers use of Online Resources of Information and Communication Technology with respect to Type of University

Conclusion

Universities are the centers of knowledge and enriched with divergent facilities to cater to the needs of the students. Different universities are equipped with different facilities as per their financial and budget provisions and degree of management. Thus pupil-teachers of different universities differ significantly in their use of hardware resources and software resources, but do not differ in their online resources as mostly these can be explored individually without institutional support.

4.2 Variable-wise Findings of Perceptions of Use of Edmodo as a Tool of Learning

4.2.1 Gender

- There was a significant difference in pupil-teachers Perceptions of Effective Learning use of Edmodo as a tool of learning with respect to Gender
- There was significant difference in pupil-teachers Perceptions of Learner Engagement use of Edmodo as a tool of learning with respect to Gender

- There was significant difference in pupil-teachers Perceptions of Instructional Resources use of Edmodo as a tool of learning with respect to Gender
- There was no significant difference in pupil-teachers Perceptions of Barriers of use of Edmodo as a Tool of learning with respect to Gender

Conclusion

Perceptions are influenced by past experiences, education, values, cultures and preconceived notions. The male and female pupil-teachers carry different experiences, different educational background, culture, values and notions. Thus there was significant difference between male and female pupil teachers perceptions of Edmodo as a tool of learning.

4. 2.2 Residence

- There was no significant difference in pupil-teachers Perceptions of Effective Learning use of Edmodo as a tool of learning with respect to Residence
- There was no significant difference in pupil-teachers Perceptions of Learner Engagement use of Edmodo as a tool of learning with respect to Residence
- There was no significant difference in pupil-teachers Perceptions of Instructional Resources use of Edmodo as a tool of learning with respect to Residence
- There was no significant difference in pupil-teachers Perceptions of Barriers of use of Edmodo as a tool of learning with respect to Residence

Conclusion

The hosteller and non-hostellers pupil-teachers are guided by the same academic requirements and merits. Perceptions are mostly based on the experiences with Edmodo rather than the living environment and surroundings. Since both hosteller and non-hosteller pupil-teachers academic needs are same thus, there was no significant difference in the perception of use of Edmodo as a tool of learning.

4.2.3 Stream

- There was no significant difference in pupil-teachers Perceptions of Effective Learning use of Edmodo as a tool of learning with respect to Stream
- There was no significant difference in pupil-teachers Perceptions of Learner Engagement use of Edmodo as a tool of learning with respect to Stream
- There was no significant difference in pupil-teachers Perceptions of Instructional Resources use of Edmodo as a tool of learning with respect to Stream
- There was no significant difference in pupil-teachers Perceptions of Barriers of use of Edmodo as a tool of learning with respect to Stream

Conclusion

The educational needs are attained as per the requirements in their stream. Science and social science stream pupil-teachers requirements may be different but they look for their respective pedagogy and learning resources on Edmodo. Perceptions are influenced by experiences, education and values. Science and social science stream pupil-teachers experience. Edmodo from their respective discipline specific teaching and learning material requirements. Thus, there is no significant difference in pupil-teachers perceptions of use of Edmodo as a tool of learning with respect to their stream.

4.2.4 Type of University

- There was significant difference in pupil-teachers Perceptions of Effective Learning use of Edmodo as a tool of learning with respect to Type of University
- There was no significant difference in pupil-teachers Perceptions of Learner Engagement use of Edmodo as a tool of learning with respect to Type of University
- There was no significant difference in pupil-teachers Perceptions of Instructional Resources use of Edmodo as a tool of learning with respect to Type of University
- There was no significant difference in pupil-teachers Perceptions of Barriers of use of Edmodo as a tool of learning with respect to Type of University

Conclusion

Universities are the centers of learning. Different universities follow different administrative and academic norms which make them divergent with vivid learning and teaching atmosphere. All universities serve as a model of learning for meaningful learning at their own pace and provision available. Thus, there is a significant difference in pupil-teachers perceptions of effective learning use of Edmodo as a tool of learning but there was no significant difference in pupil-teachers perceptions of learner engagement, instructional resources and barriers of use of Edmodo as a tool of learning.

4.3 Relationship between pupil-teachers Perceptions of use of Edmodo as a Tool of Learning and Use of ICT Resources

- There was significant relationship between Pupil-teachers perceptions of Effective Learning use of Edmodo as a tool of learning and Use of ICT Resources (Hardware Resources, Software Resources and Online Resources)
- There was significant relationship between pupil-teachers perceptions of Learner Engagement use of Edmodo as a tool of learning and Use of ICT Resources (Hardware Resources, Software Resources and Online Resources)
- There was significant relationship between pupil-teachers perceptions of Instructional Resources use of Edmodo as a tool of learning and Use of ICT Resources (Hardware Resources, Software Resources and Online Resources)
- There was no significant relationship between pupil-teachers perceptions of Barriers of use of Edmodo as a tool of learning and Use of ICT Resources (Hardware Resources, Software Resources and Online Resources)

Conclusion

Pupil-teachers must be well acquainted with different learning resources and tools to shape the future generation. Edmodo gives good platform for effective teaching learning interaction. Edmodo can be used on both mobile devices and web environments to create virtual learning environment. Knowledge of different hardware resources, software resources and online resources will enhance effective learning, learner engagement and efficient use of instructional resources of Edmodo. Sound knowledge of hardware, software and online resources will help in effective exploration and utilization of various teaching learning resources and features of Edmodo. Thus, there is signification relationship between pupil-teachers perceptions

of effective learning, learner engagement, instructional resources of use of Edmodo as a tool of learning and no significant relationship with respect to perceptions of barriers of use of Edmodo as a tool of learning.

4.4 Educational Implications

Teaching learning is a complex activity and learning is no more restricted to the classroom or the teachers only. Learning multiple concepts from multiple sources is the need of the hour. Pupil-teachers must be well acquainted with different learning resources and tools to shape the future generations. Edmodo is very effective tool for effective learning specially to pupil-teachers as follows

1. Edmodo helps pupil-teachers to understand the education system and provides platform to connect, collaborate and share educational content.
2. Edmodo builds individualism and self-esteem of pupil-teachers.
3. Edmodo helps pupil-teachers to build digital skills.
4. Edmodo helps in professional development of pupil teachers by providing rich and varied resources of teaching and learning.
5. Edmodo provides good platform for learning beyond classroom and mobile app integration in curriculum making learning anytime anywhere.
6. Edmodo encourages gamification of learning with features like badges quizzes etc.
7. Edmodo enables differentiated instructions with features like small groups and shared folders.
8. Edmodo supplements the teaching-learning process and thus helps pupil-teachers to become best teachers of the nation.

9. Edmodo provides learner-teacher-parent interaction which helps in effective and efficient teaching learning outcomes.
10. Edmodo enriches the teaching learning experience of pupil-teachers and become critical and reflective thinkers by collaborating and creating new knowledge.

4.5 Conclusion

Today Education demands multifaceted learning and vibrant interactions for sound knowledge of the concepts. This study reflects that pupil-teachers have strong perceptions of use of Edmodo as a tool of learning. Technical know-how did matter the in application of Edmodo. Universities being the centers of learning should encourage and provide more space for multicultural learning environments so that pupil-teachers can be braced to handle phenomenally changing learning environments in the digital world.

4.6 Suggestions for Further Research

The researcher on the basis of the present study, recommends the following for further research

- Similar studies could be taken with teachers, parents and head masters and others stakeholders of Education.
- This study could be replicated with a larger sample so that better generalization could be drawn.
- Similar studies can be taken up at different places and in different parts of India.

- Correlational and comparative studies could also be taken on virtual learning environment and face to face learning.
- Similar studies could be taken on online learning platforms like Kahoot, Prezi, Insert Learning, Quizzes, etc.