USAGE OF MOODLE AND CANVAS AS A PLATFORM FOR E-LEARNING COURSES BY STUDENTS ENROLLED IN HIGHER EDUCATION INSTITUTIONS

A

DISSERTATION

SUBMITTED TO THE MIER COLLEGE OF EDUCATION (AUTONOMOUS)
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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF EDUCATION

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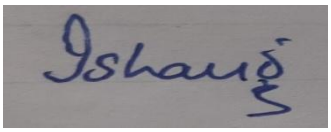
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In fulfillment of the requirements for the Award of the Degree of M.Ed., submitted in the MIER College of Education (Autonomous), University of Jammu is an authentic record of my own research work carried out under the supervision of Dr. Mool Raj, Professor, School of Education (SoE), MIER College of Education (Autonomous).

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(Signature of the Candidate)

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ABBREVIATIONS USED

ANOVA	:	Analysis of Variance
B.Ed.	:	Bachelor of Education
BA	:	Bachelor of Arts
B.Sc.	:	Bachelor of Science
B.Com	:	Bachelor of Commerce
CMS	:	Course Management System
COVID-19	:	Coronavirus Disease 2019
CSFs	:	Critical Success Factors
df	:	Degree of Freedom
ELMS	:	Electronic Learning Management System
E-Learning	:	Electronic Learning
GGM	:	Govt. Gandhi Memorial Science College, Jammu.(Government)
HEIs	:	Higher Education Institutions
ICT	:	Information and Communication Technology
LMS	:	Learning Management System
M.A.M	:	Govt. Maulana Azad Memorial, Post Graduate College
MCQ	:	Multiple Choice Questions
M.Ed.	:	Masters of Education
MIER	:	Model Institute of Education & Research
MOOCs	:	Massive Open Online Courses
MOODLE	:	Modular Object- Oriented Dynamic Learning Environment
No.	:	Number
n	:	Sample Size
N	:	Size of the Population
ODL	:	Online Distance Learning

PHP	:	Hypertext Preprocessor
PLS-SEM	:	Partial least squares structural equation modeling
PG	:	Postgraduate
PSPSG	:	Padma Shri Padma Sachdev Government PG College for Women (Government)
QUeLP	:	Questionnaire on Usage of e-learning Platforms
SD	:	Standard Deviation
SEM	:	Standard Error Mean
SPMR	:	Shri Pratap Memorial Rajput College of Commerce
SPSS	:	Statistical Package for Social Sciences
TOE	:	Technology-Organization-Environment
U-DISE	:	Unified District Information System for Education
UG	:	Undergraduate
VLE	:	Virtual Learning Environment

ABSTRACT

E-learning is an innovation that employs technology to extend learning opportunities beyond space and time boundaries. Online courses include a wide range of subjects and can be accessed by students at any time and from any location. The aim of the present study was to understand the level of usage of Moodle and Canvas as e-learning platforms by students enrolled in Higher Educational Institutions through a descriptive survey method. A simple random sampling technique was used to select 200 Higher Education Institution students studying in colleges of Jammu District. A self-devised questionnaire on the Usage of E-learning Platform (QUeLP) was used. The findings of the study revealed that 30% of the students have enrolled in MOOCs while 70% are not. Further, 54% of students used e-learning platforms every day. Significant differences were found in the usage of e-learning platforms between gender (Male and Female), age groups (18-20, 21-23, 24+ years), different classes (MEd, BEd, BA, BSc & BCom), institutions and departments (UG and PG). Further, no significant difference was found in usage of e-learning platforms by the students with respect to residential background (Urban and Rural) and Stream (Science, Commerce and Humanities). The study also revealed that 31% of the students have used Moodle or Canvas platforms as e-learning platforms while 69% do not. Average satisfaction with Moodle was moderate, with a score of 3.96 on a five-point scale, while Canvas had a somewhat lower satisfaction level with a score of 2.52.

Keywords: e-learning, e-learning platforms, Moodle, Canvas, Higher Education Institutions.

CHAPTER-I

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Education is the aggregate of all the processes by which a person develops abilities, attitudes and other forms of behavior of practical values in the society in which she/he lives; the social process by which people are subjected to the influence of selected and controlled environment (especially that of the school), so that they may obtain social competence and optimum individual development (Good, 1973)

Education is a vital component for social, political and economic development of any nation. Likewise, the mode through which education is being imparted is also a great subject. Face to face as well as online or distance modes of education are equally contributing towards betterment of our educational growth. Face to face method is a well-tested and tried method of imparting education for the past many centuries and it is still prevailing in the whole world. On the other hand, technology is available in abundance these days and it has presented the educational field with the latest innovative techniques and tools of teaching and learning which can do wonders if utilized appropriately (Ramlal, 2020).

E-learning has been performing a main role in current teaching and learning. Earlier than the broad enhanced use of electronic learning, the established chalk and chat technique was used as a main way of teaching, where teachers use chalk to write on a blackboard and next convey a lecture. Nowadays in many universities, all traditional methods are now being replaced by modern techniques like multimedia presentations. Through multimedia presentation it is easy for learners to absorb ideas given in presentation. Teachers can show a number of audio or video information by embedding them within a slide. It is a big question mark among teachers that what methods need to be retained or discarded. The online materials make it very easy to gather the right information. Moreover, it becomes very easy to produce multiple copies of the content for distribution. However, having overloaded and high-quality information does not necessarily prove the abilities of a learner or teacher. A teacher must know what information is right and best for students. At the same time, students

must know how to learn or catch up with lessons more efficiently. Unfortunately, providing the best ideas to learn does not really help students because they fail to provide the best process of learning, and students fail to practice real-life situations during learning. For example, in the traditional classrooms, students need to be aware of classroom conditions strictly and need to take notes actively while listening to their teachers. They also learn how to live with fellow classmates, how to talk to teachers in person, and how to participate in different academic competitions and this not only improves them psychologically but also physically (Rai & Chunrao, 2016).

Modern age is the age of science. Every aspect is deeply impacted by science; some regard it as a boon while others regard it as a curse . During Covid-19 , all the institutions preferred E- learning as a platform for providing quality education with Efficacy.(Mercier,2021)

Web-based learning is used nowadays as another option to the traditional system of Education (Face -to-Face). Infact, its use increases in a direct proportion with the increase of the number of students. Online learning applications are not a barrier to learning (Cheawjindakarn,2013)

This has made it possible for the educators to exert a lot of effort to help the learners to get interactive content that is full of multimedia as it has been proven that it has a significant effect on the process of learning. (Cartwright,1999)

1.1.1 E-Learning

E-learning, can be also termed as online learning or electronic learning, is the acquisition of knowledge which takes place through electronic technologies and media. In simple language, E-learning is defined as “learning that is enabled electronically”. Typically, E-learning is conducted on the Internet, where students can access their learning materials online at any place and time. E-Learning most often takes place in the form of online courses, online degrees, or online programmes. (Abbad,2009)"E-learning is the use of internet and digital technologies to create experiences that educate our fellow human beings.”(Horton, 2001)

Garrison and Anderson (2003) defined E-learning participation as teaching and learning facilitated and supported by Internet technologies. E-learning has been

introduced as a tool in the learning process in the majority of the international universities worldwide. The term “E-learning” is defined by (Horton, 2001) as “any learning that involves using the internet or intranet.” A year later (Cheng,2006) made the definition more generalized by indicating that it is “anything delivered, enabled, or mediated by electronic technology for the explicit purpose of learning” . According to (Li & Masters, 2009) “e” in e-learning should not stand for electronic; it should be an abbreviation for “evolving, enhanced, everywhere, every time”. E-learning has grown in significance as an educational tool just like technology has developed and progressed over the years. Interestingly, there have been more efforts at advancing technology than on attempting to understand the needs and learning styles of individual learners and instructional design. The 21st century has seen rapid progress with such things as the Internet and online learning.” In fact, the quotation of (Li & Masters, 2009) shows most of the advantages of e-learning for learners and instructors .Although the e-learning term and tools do exist for over a decade, the educational research field has not given enough attention to the study of student motivation under the effect of e-learning. E-learning has grown in significance as an educational tool just like technology has developed and progressed over the years. Interestingly, there have been more efforts at advancing technology than on attempting to understand the needs and learning styles of individual learners and instructional design. The 21st century has seen rapid progress with such things as the Internet and online learning.

"E-learning is the continuous assimilation of knowledge and skills by adults stimulated by synchronous and asynchronous learning events and sometimes knowledge Management Outputs -which are authored, delivered, engaged with, supported and administered using internet technologies."(Don Morrison, 2003). "The delivery of a learning, training or educational Program by electronic means. E-learning involves the use of a computer or electronic device (e. g. a mobile phone) in some way to provide training, educational or learning material."(Stănescu, 2016). E-learning is commonly referred to the intentional use of networked information and communications technology in teaching and learning."(Som Naidu, 2006).

1.1.2 E- Learning Platform

An electronic learning platform is an integrated set of interactive online services that provide trainers, learners, and others involved in education with information, tools,

and resources to support and enhance education delivery and management. eLearning platforms are a new method of teaching distant peoples as they have their own design and development processes in creating effective teaching courses.



Fig1.1.2 (Imgsrc:https://www.vectorstock.com/royalty-free-vector/e-learning-platform-written-vector-23311292)

E-learning is a way of learning in which the learners can learn from the internet using an electronic device. It can also be called online learning or online education. A learning management system (LMS) is a software application for the administration, documentation, tracking, reporting, and delivery of educational courses, training programs, or learning and development programs(Ellis, 2009). The LMS came into existence in the late 1990s(Davis, 2009).

A number of different terms can be used for LMS like Course Management System (CMS) , Virtual Learning Environment (VLE) or simple E learning systems. An LMS can be considered as a huge repository of information used for storage and accessing that information. There are mainly two stakeholders in any LMS one is the person or a team responsible for uploading and updating the content of the online course and the second one is the online users or the learners who access the course. Once the content is uploaded on an LMS by the trainers, it can be accessed by the users who have been allotted the user's name and the password by the trainers. The user can get the

information in any of the formats like text (Word, PDF, PPT etc.), audio, image, video etc. The users can get into the live interaction with the teacher or trainer or they can also access the information anytime and anywhere offline from their respective LMS.

According to the approach of Piotrowski (2010), an e-learning platform represents a system, which provides integrated support for six different activities: Creation, Assessment, Organization, Communication, Delivery and Collaboration.

A number of Learning Management Systems are available and they can be classified into two different categories viz. Open source LMS and Proprietary or Paid LMS. An open-source software is based on the concept of sharing and collaboration i.e.; anyone can use this software free of cost and they also get the access to the code of the software so that they can make changes to the code according to their usage. So open source LMS are freely available for usage. Moodle, Open edX, Canvas, Sakai are some of the open source LMS. On the other hand, the Proprietary software is privately owned and if someone wants to use this software, they have to make a payment. Blackboard Learn, Do Cebo, Talent LMS, Looop, Go Skills, Easy LMS are some of the paid Learning management systems.

FEATURES of LMS :

i. **Easy to use:** It must be easy for the user or learner to use it.

ii. **Mobile Learning:** It must have a responsive design so that the contents can be accessed on the mobile phone easily in an effective readable format.

iii. **Assessment:** An LMS must provide an appropriate environment for conducting tests and assessment (both formative and summative) in any form like MCQ, Quiz, Formative Tests, online tests etc.

iv. **Reporting:** It must provide a system for generating reports of the various students' activities like tests, attendance etc.

v. **Security:** It must provide security features for the data on LMS. The data is mainly of two types: first the data of the users or students and the content of the course uploaded by the instructor.

vi. Management: It must provide course and user management i.e., enrolling students, managing various students' activities, showing time tables etc.



Fig1.1.2 (ImgSrc:https://www.jagranjosh.com/articles/list-of-digital-learning-platforms-for-the-students-by-mhrd-and-government-of-india-1584947155-1)

1.1.3 Open-Source Learning Management Systems



Fig1.1.3.1 Moodle **(ImgSrc:**https://moodle.com/about)

Moodle is a Learning Management System, Course Management System, or Virtual Learning Environment, depending on which term you prefer. Its goal is to give

teachers and students the tools they need to teach and learn. Moodle comes from a background of Social Constructionist pedagogy, however, it can be used to support any style of teaching and learning. There are other types of software systems that are important for educational institutions, for example portfolios, Student Information Systems and Content repositories. Generally, Moodle does not try to re-invent these areas of functionality. Instead, it tries to be the best LMS possible, and then interoperates gracefully with other systems that provide the other areas of functionality. It is, however, perfectly possible to use Moodle as a stand-alone system, without integrating it with anything else. Moodle is a web application written in PHP. Moodle is open source. Copyright is owned by individual contributors, not assigned to a single entity, although the company Moodle Pvt Ltd in Perth Australia, owned by Moodle's founder Martin Dougiamas, manages the project.

Table 1.1 -A brief description of Moodle LMS

Name	**Moodle**
Latest Version	**4.0**
Written In	**PHP Language**
Official Website	**https://moodle.org/** **Web based open source**
Areas	**K-12, Higher Education and Workplace.**

Features of Moodle Platform:-

1. It is easy to navigate on both desktop and mobile devices.
2. It displays the current, past and future courses
3. It gives us a glance about the deadlines and calendar events
4. It helps us to work and learn together in forums, wikis, glossaries, databases.

1.1.3.2 Canvas

Canvas Instructure is an online learning platform that allows students to integrate their accounts with social media sites such as Twitter and Facebook. It is one of the top

online learning platforms available. Best of all, students and instructors acting individually (not subscribing as an entire school) can use the program for free.

In structure, Inc. is an educational technology company founded in 2008 by two graduate students, Brian Whitmer and Devlin Daley (Sara, 2010). In structure developed Canvas, a Web Based learning management system, and Canvas Network, a massive open online course (MOOC) platform. It is available in more than 30 languages. Before officially launching the Canvas, the Utah based company tested the Canvas LMS at several local schools including Utah State University and Brigham Young University. It is being used by more than 18 million higher education, K-12 and workforce users worldwide. In 2011, Canvas launched their iOS app, and in 2013, their Android app, enabling mobile access to the Canvas learning platform. Both the apps comprised two components Canvas Student and Canvas Teacher, separating features for students and instructors. Canvas provides a number of features like navigation, communication, course features and setting notification preferences. In navigation it contains The Dashboard also shows courses and groups, recent activity, to-do items, upcoming assignments, and recent feedback, Global Navigation which is the menu that appears on every Canvas page consists of navigation links that direct users to frequently-used features in Canvas and the Calendar which is a communication tool that shows users all events and assignments in their courses and groups. Canvas provides a number of assessment tools like assignments, quizzes, grades and outcomes.

Table 1.2 A brief description of Canvas LMS

Name	**Canvas**
Latest Version	**Web- based open sources, Android 1.11 , iOS 1.11**
Written In	**Mainly in Ruby and others**
Official Website	**https://www.Canvas.instructure.com/**
Areas	**K-12, Higher Education and Business.**

Features of Canvas Platform

- Everything in One Place

Engaging course content. Quizzes and grades. Data and insights. Student interaction with educators and peers. All right there in the Canvas LMS. Ready to support in-person, online, and blended learning.

- Interactive Analytics

Data can be daunting. Canvas Admin Analytics makes it easy to view Canvas usage, and allows administrators to see and understand the data that matters most to them.

- Instant Content Delivery

Quickly upload and share course information in an array of captivating ways. And use Blueprints to push curriculum throughout your institution.

- Mobile Learning

Canvas LMS delivers industry-leading mobile applications combined with full-featured responsive design for unmatched accessibility and assurance that your institution can reach every learner.

- Increased Productivity

There's only one you. Spend your time on teaching and learning. Let the Canvas LMS handle the administrative stuff.

(https://www.instructure.com/higher-education/products/canvas/canvas-lms)

Usage of Canvas and Moodle as a Student

Students can keep track of their progress in the class, complete assignments, and participate in discussions with ease. The grade book allows students to see both their grades for individual assignments and their overall grade. Students can even enter alternative scores for assignments to project how their overall grade would be impacted by a higher or lower score. They can choose to connect their accounts to multiple email addresses, text-receiving phone numbers, and social media pages.

Table 1.4 -Moodle vs Canvas: Quick Comparison

Product Name	Moodle	Canvas
Free plan	Yes	No
Integration Capability	Yes	Yes
Custom User Interface	Yes	No
Multilingual	Yes	Yes
Offline Learning	Yes	No

1.2 NEED AND SIGNIFICANCE OF THE STUDY

In higher education institutions, the adoption of e-learning courses has become increasingly imperative to address the evolving needs of students. These courses offer a range of benefits that cater to the diverse and dynamic nature of modern education. Overall, e-learning courses in higher education institutions fulfill the need for flexible, personalized, globally-connected, and technologically adapted learning experiences, empowering students to succeed in an ever-evolving educational landscape.

Although the literature regarding e-learning and using e-learning as one of the instruments of learning is expanding, studies related to the quality of online education as well as the usage of various online platforms are limited. Among those examined, few researchers have examined the quality of online education from the students' perspective. Therefore, there is a need to investigate students' perceptions towards the quality of e- learning as well as the other learning management tools. The purpose of this study was to examine the usage of existing online education courses that utilize the Internet as the primary instructional delivery method. The findings of this study may contribute to the literature of e- Learning courses in terms of LMS. It will lessen the paper works of the students and teachers of the researchers. This has set a basis about e-learning for future researchers. The present study is one step in this direction as insight on usage will be a significant contribution in this field. The results should hopefully enable institutions offering e-learning to evaluate their programmes based on the findings and the recommendations in the present study .Results from present study hold great use for teachers by offering a convenient means to enhance subject

knowledge, teaching techniques, and technological integration. They foster ongoing learning, collaboration, and reflective teaching, empowering educators to provide high-quality and adaptive education to their students in an ever-changing educational landscape. e-learning platforms are also important for institutions and it lies in their ability to provide flexibility, scalability, data-driven insights, technological innovation, and collaborative opportunities. By incorporating e-learning, institutions can enhance their educational offerings, attract a wider student base, and stay adaptive in a rapidly changing educational landscape. Insight for e-learning platforms holds significant importance for students by offering flexibility, promoting digital literacy, enabling personalized learning, fostering collaboration, and preparing them for the demands of modern education and employment. This approach equips students with the skills and mindset necessary to excel in an interconnected, technology-driven world. Results on e-learning platforms may be significant for LMS experts by enhancing their expertise, enabling effective design and implementation of e-learning platforms, fostering collaboration, and capitalizing on growing career opportunities. These professionals play a crucial role in shaping the future of digital education, making their continuous learning and proficiency with e-learning technologies highly relevant and impactful. It will be considered to be the first study in Jammu District. The findings of the study may prove beneficial for students, teachers, and for educational institutions in general.

1.3 STATEMENT OF THE PROBLEM

"USAGE OF MOODLE AND CANVAS AS A PLATFORM FOR E-LEARNING COURSES BY STUDENTS ENROLLED IN HIGHER EDUCATION INSTITUTIONS"

1.4 OPERATIONAL DEFINITIONS

The variables have been operationally defined as under:

1.4.1 E- Learning

In the present study, e-learning is the learning which is taking place either through Moodle or Canvas Instructure platforms or any other electronic learning management

system (ELMS) used by the students enrolled in higher education institutions (HEI's) selected for the study.

1.4.2 Moodle

In the present study, Modular Object-Oriented Dynamic Learning Environment (Moodle) is an online, open-source learning platform used for running an institutional LMS for learning purposes by the students enrolled in higher education institutions.

1.4.3 Canvas

Canvas Instructure is another online platform used for learning purposes by the students enrolled in higher education institutions.

1.4.4 Higher Education Institutions (HEIs)

In the present study, the Higher Education Institutions refers to the institutions imparting instructions at graduate and postgraduate levels and are affiliated to the University of Jammu and Cluster University of Jammu.

1.4.5 Usage

In the context provided, usage refers to the extent or manner in which students at higher education institutions (HEIs) employ online platforms on their devices, such as laptops and mobile phones. It encompasses how frequently and in what ways these students interact with online platforms for various educational purposes. In the present study, the usage has been measured by a self-prepared tool namely -Questionnaire on usage of e-learning platforms.

1.5 OBJECTIVES OF THE STUDY

The following are the research objectives for the present study :

1. To study the status of enrollment of higher education institution students in massive open online courses (MOOCs) through e - Learning platforms.

2. To study the e-Learning habits of the students in terms of readiness towards e-learning platforms for pursuing their higher education.

3. To study the differences in usage of e-Learning platforms by the students with respect to their gender, age, class, stream, institution, and residential background.

4. To study the preferences of the higher education institution students towards using Moodle and Canvas as MOOC Platforms.

5. To compare the level of usage of Moodle and Canvas as platforms for e-learning among students pursuing higher education.

1.6 HYPOTHESES OF THE STUDY

The following are the hypothesis for the present study:

1. There is no difference in usage of e-Learning platforms by the students with respect to their gender.

2. There is no difference in usage of e-Learning platforms by the students with respect to their age.

3. There is no difference in usage of e-Learning platforms by the students with respect to their class.

4. There is no difference in usage of e-Learning platforms by the students with respect to their stream.

5. There is no difference in usage of e-Learning platforms by the students with respect to their institution.

6. There is no difference in usage of e-Learning platforms by the students with respect to their residential background.

7. There is no difference in usage of e-Learning platforms by the students with respect to their department.

1.7 DELIMITATIONS OF THE STUDY

The present study has been delimited to the following :

1. The present study deals with the 200 students enrolled in the higher educational Institutions in Jammu district only.

2. The present study has been conducted by using One self-prepared tool Questionnaire on Usage of e-learning Platforms (QUeLP) .

3. The present study is delimited to the survey on usage of Moodle and Canvas as a platform for e-learning courses.

4. The study was restricted to those students who were aware of Moodle and Canvas platform in achieving objective 5.

CHAPTER-II

REVIEW OF RELATED LITERATURE

2.1 INTRODUCTION

In this chapter, an attempt has been made to present a brief review of the research available in the present field of investigation. The review of related studies is an essential part of any investigation. The survey of the related studies is a crucial aspect of the planning of the study.

According to David (1969), literature is revised to create the content of the past in such a way that the new study is carried out with new subjects and newly obtained data. The investigation exploits information accumulated within the past as results of constant human effort. It will never be tired isolation from the work that has already been done on issues directly or indirectly associated with a study projected by an investigator. A careful review of analysis journals, books, dissertations, theses and alternative sources of data regarding the matter to investigate is a vital step within the coming up of any research study.

In examining the related literature, the researcher can avoid useless and unsuccessful problem areas and their efforts could significantly increase knowledge. Through the review of related literacy, the researcher can avoid the involuntary duplication of consolidated results. Proposes to the investigator to comprehend the methodology of investigation that refers to the form in which the study will be carried out.

Purposes of a Literature Review

In a broader context Hart (1998) lists the following purposes of a review:

- Distinguishing what has been done from what needs to be done;
- Discovering important variables relevant to the topic;
- Synthesizing and gaining a new perspective;
- Identifying relationships between ideas and practice;

- Establishing the context of the topic or problem;
- Rationalizing the significance of the problem;
- Enhancing and acquiring the subject vocabulary;
- Understanding the structure of the subject:
- Relating ideas and theory to applications;
- Identifying methodologies and techniques that have been used;
- Placing the research in a historical context to show familiarity with state-of-the-art developments.

The above purposes are not ranked in order of importance. In many cases, there may be a merging of purposes or different manifestations.

John W. Best (1995) pointed out that review of related literature is "The previous analysis transient outline wherever the writing of recognized consultants offers researchers at home with what's antecedently legendary and what's still unknown and untested. Since, effective research must be based on past knowledge this step helps to eliminate the duplication if what has been already provides useful hypothesis and helpful suggestion for significant investigation. The review of literature in this chapter presents a picture of the research work done on usage of e-learning to improve the process of education in different countries in general and India in particular. The main aim of this study is to assess the use of e-learning at Graduate and Postgraduate level.

Studies related to e-learning, Moodle and Canvas has been organized starting from the Latest one:

2.2 RESEARCH STUDIES ON E-LEARNING

Gurban and Almogren (2022) investigated the effect of perceived interaction, educational materials, playfulness, perceived enjoyment, self-efficacy, perceived usefulness, and perceived ease of use on students' attitudes toward and intentions to use e-learning in Saudi Arabia higher educational institution during the COVID-19 pandemic, as well as the indirect impact of student satisfaction with their actual use of

e-learning .The method employed for the study was online survey .The study's participants were e-learning users from a Government University in Saudi Arabia. Gender, age, educational level, and specialism were used to classify demographic characteristics. The result showed that Online learning, according to the students, is a flexible and effective form of teaching and learning since it provides for easier management and availability of distant learning while consuming fewer time and resources. Regardless of time restrictions, learners may easily obtain instructional content.

Irzawati (2021) investigated the students' perspectives towards the utilization of digital platforms in online learning. Learning Management System, WhatsApp, and Google Meet are the digital platforms used in the online learning of this research. The method employed descriptive research . A sample size of 79 students from three different faculties of a private university in Palembang that were selected through purposive sampling technique. The data were collected by administering questionnaires and interviews to the participants via Google Form and WhatsApp Chat. The data analysis procedures consist of Collecting, classifying, and describing were used by the researcher. The results revealed that the students perceived the use of the digital platforms in learning positively. The students believed that learning through utilizing the digital platforms had brought positive impacts that lead to the enhancement of their English achievement. Moreover, The study using multi digital platforms provided an opportunity and more dynamic learning atmosphere .

Nikou and Maslov (2021) had examined the critical factors for the intention to participate in e-learning during COVID-19. The Data were collected by surveying 131 university students and a structural equation modeling technique using PLS-SEM was employed to analyze the data. The results showed that the COVID-19 related factors such as perceived challenges and COVID-19 awareness not only directly impact students. However, the results showed that the educational institution's preparedness does not directly impact the intention of students to participate in e-learning during COVID-19. The results also showed that the gender and length of the use of e-learning systems impacted students using e-learning.

Abbasi et.al (2020) investigated the perceptions of students regarding E-learning during Covid-19 at a private medical college. A descriptive cross-sectional study was conducted at Liaquat College of Medicine and Dentistry. MBBS and BDS students of all levels participated in the study with a sample size calculated as 377. A self-administered questionnaire was developed. Total 382 responses were received i.e., 137 males and 245 females participated in the study. The study showed that Students did not prefer e-teaching over face-to-face teaching during the lockdown situation. Further, Administration and faculty members should take necessary measures for improving e-teaching for better learning during lock down.

Okike et.al (2020) explored the factors influencing the use of e-learning by students in private HEIs in Nigeria using Technology-Organization-Environment (TOE) framework. The data collection was done by conducting method semi-structured interviews with 15 students from L-University drawn purposefully from the Landmark directory .The findings revealed that technology-related factors (ease of use, speed accessibility and service delivery), organization-related factors (training support and diversity), environment-related factors (attitudes of the users) and impact-related factors (learning experience, skill development, academic performance, and degree of engagement) influenced the students adoption of e-learning facilities. The study also revealed techniques that may accelerate the development of e-learning structure in private systems and which could provide the opportunity of assisting communities of learners to adopt and use e-learning facilities regularly.

Sarker et.al (2019) investigated the use of e-learning at higher educational institutions in Bangladesh considering its Opportunities and challenges. The purpose of this paper is to critically examine the suitability of implementing effective e-learning through learning management system (LMS) at the tertiary educational institutions in Bangladesh, and how both students and teachers experienced and responded to this new learning platform. Following mixed-methods techniques ,Questionnaires and in-depth interviews were used to administer the data for this study The data were collected from students and respective course teachers of a private university in Bangladesh. The findings of research paper revealed that e-learning has been well accepted by most of the students as they are found routinely

spending time on the LMS on a regular basis for watching lecture videos, viewing course information, and reading postings of the fellow students in the forum.

Barclay (2018) investigated the influential factors for successful online learning in Caribbean higher education. Extended technology acceptance framework was utilized. Partial least squares analysis was employed and the model was tested. Online learning has developed as a crucial mode of education even in developing countries. The vital factors influencing the online learning environment included encouraging culture, technology access, and 37 availability of online systems, confidence in working with technology, user friendliness and usefulness. Studies have shown that significant investments have been made by universities, yet the desired outcomes expected have not been fully realized due to issues and challenges experienced by students and teachers in adopting and effectively using e-learning.

Alhabeeb (2017) studied the factors that impacted e-learning. Senior managers responsible for implementation and promotion of e-learning at three Saudi Arabian Universities were interviewed. The objective of the study was to comprehend the effect of the learning environment, student as well as educator features, pedagogical design and support on e-learning implementation. Among the pedagogical factors, learning objective, clarity and material quality were considered important. The most critical factors identified were related to student and educator features. Moreover, the educators as well as students' knowledge of technologies and technical infrastructure were considered as key factors for successful implementation of e-Learning.

Dang (2016) examined the vital factors that can affect student learning in an online environment. Based on previous studies, three main factors were considered namely student, educator and institutional support. A study was conducted to determine the effect of educator characteristics, facilitating conditions and technology self-efficacy on ICT adoption in education. The finding of the study showed that educator characteristics and facilitating conditions influence ICT implementation .

Bhuasiri (2012) interviewed educators and technology experts to determine factors for e-learning adoption in developing countries. The study showed that educators' technology competency, quality of course material, training and Institute support are critical factors for successful implementation of e-learning systems. A study was

conducted on six institutes of tertiary education that had adopted ICT in the United States of America. This study was conducted by Higher Education Policy, USA. The study suggested that management support, electronic course material, teaching-learning, structure of course, evaluation, assessment, management support to faculty and students are major factors that can affect e-learning.

Cheawjindakarn (2012) reviewed research papers of e-learning published from 2000 to 2012 to specify the Critical Success Factors (CSFs) for Online Distance Learning(ODL) in Higher Education (HE). Research methodology was analyzing and synthesizing the literature review. The literature was reviewed to determine items that were relevant to online learning success as - implementation, criteria and indicator. A total of 19 papers, published during 2000-2012, were selected from Chulalongkorn University for reference databases . Data analysis method was used to analyze the content . The results on the CSFs for ODL can be grouped into 5 factors. Each of these 5 factors includes various important elements that can assist to enhance efficiency of online learning courses in higher education institutions. Further , the study reveals a concrete approach of an online institute of course in all the levels for the success of the institute‘s vision .Moreover, it also guides the teachers about the ways that they need to adopt for the success of online distance learning.

Hunaiyyan and Goodwin (2008) studied the student’s attitudes toward e-learning in Kuwait’s higher education institutions. The investigation was conducted at the College of Business Studies (CBS), a government sector, at which e-learning had not been previously used, and at the Gulf University for Science and Technology (GUST) representing the private sector. A study was carried out to examine students' attitude toward e-learning, and data was collected using a questionnaire which was applied for students in both sectors. The study results indicated that the students in both sectors were keen to use e-learning and there are some significant differences between male and female students in their attitudes to and use of e-learning materials.

2.3 RESEARCH STUDIES ON MOODLE

Babalola (2023) investigated the undergraduate level of acceptance and utilization of Moodle platform for learning at the University of Ilorin. The study adopted descriptive research of the survey type. The technique used for the present study was

random sampling . A total of two hundred (200) undergraduates formed the sample size for the study. The Questionnaire tool was used to obtain the data .The data obtained was subjected to both descriptive and inferential statistics. Frequency counts and means scores were used to answer the research questions, ANOVA and t-test were used to test hypothesis one and two respectively. The findings revealed that the Undergraduates' level of acceptance of Moodle platform for learning is negative and there was a significant difference between male and female Undergraduates level of utilization of Moodle platform for learning . The study concluded that the Moodle platform with so many existing features and future potential uses is not broadly utilized in many universities. Moreover, it suggested that Universities should implement a platform that supports online learning activities to engage students virtually and dredge further into the issues faced by the students in e- learning activities.

Mustapha (2023) reviewed Students Motivation and Effective Use of Self-regulated Learning on Learning Management System Moodle Environment in Higher Learning Institution in Nigeria. The study employed a descriptive survey method and a questionnaire tool was used for the purpose of data collection. The sample of the study were the undergraduate students enrolled in Higher Learning institute in Nigeria. Ninety-six undergraduates (48 in the experimental and 48 in the control group) took part in this quasi-experimental study. The data gathered through the Questionnaire were analyzed using descriptive statistics. The data was analyzed through an independent sample using t-test. The result revealed that utilizing Moodle as a learning management system enhances undergraduates' ability to learn independently and motivates them to work hard. Moreover, the student's perception of the Learning Management System was positive.

Rahmaity (2023) investigated the technological competence of distance learners using Moodle-based learning platform during the Covid-19 pandemic. This study used a qualitative method to characterize and analyze the digital competence required to maximize the usage of the Moodle platform as a course media. The questionnaire and Focus Group Discussion (FGD) were used in collecting the data. A total of 509 participants responded to the survey and 17 participants in FGD(Focus Group Discussion).The results reveal that the students experienced several obstacles in

participating in online learning using the Moodle platform. Especially for students who live in remote areas. Furthermore, the findings also show that students have a fairly high level of technological competence. Furthermore, it is also important for institutions to prepare clear policies to develop their learning systems.

Ismatovna (2022) investigated the usage of Moodle Electronic Platform for education by the students of higher Education. The objective of this research is to explore use and benefits of Moodle as an Open-Source Platform. The data was collected from the teachers as they created their own courses using the Moodle platform at Bukhara State Medical Institute . Then the responses from users(both Faculty and Students) about Moodle were collected. The remote training sessions were also conducted. In order to find out how much the students have mastered the subjects using the Moodle program , Ismatovna himself analyzed the results of the test taken simultaneously. The result showed that good results can be yielded using the Moodle platform. Moreover, the results of the research would be helpful for universities to decide the plan offer to teach using Moodle Platform

Khoza (2022) studied the experiences of the postgraduate students on the use of Moodle and Canvas Learning management systems. A Qualitative case study method was employed for the purpose of research. Flyers and planned sessions were used to recruit the students. The 36 students were selected as the sample but 5 students were suspended So 31 students formed the sample size for the study. The reflected Emails, interviews through Zoom application were the instruments of Data Collection. The results indicated that the students used LMS (Moodle) primarily for the formal learning. Moreover, students found the online recorded lectures quite useful during the pandemic.

Barella (2021) described the application of Moodle-based E-Learning at Tanjungpura University Pontianak, West Kalimantan. Data was collected based on analysis, non-structured interviews and questionnaires addressed to students of the Social Sciences Education study program. The results of the study showed that Moodle provides considerable benefits in the teaching and learning process, especially during the pandemic COVID-19. However, this application also gets some suggestions in its utilization.

Kyzy, Ismailova and Dundar (2018) suggested the research hypotheses derived from the suggested extended Seddon model have been empirically validated using the responses to a survey on e-learning usage among 255 users. They tested the model across higher education institutions in Serbia, Lithuania, and Bosnia and Herzegovina. These responses have been examined through partial-least squares. The obtained results strongly support 16 of the 23 research hypotheses for the proposed e-learning model. Satisfaction had a significant effect on behavior intention and accounted for 68.4% of the variance in this area. The findings offered an insight into those factors that are likely significant antecedents for planning and implementing a Moodle e-learning system to enhance student-learning effectiveness.

Opriou (2015) studied the usage of E-learning platforms (Moodle) in the teaching and learning process of University POLITEHNICA of Bucharest. The questionnaire tool was used for the collection of the data. The test was administered to a group of students from different faculties of University POLITEHNICA of Bucharest following the empirical research .A total of 52 students contributed to the study. The result identified the use of Moodle platform increases the learning motivation Further, it helped the students to develop learning activities in the virtual space.

Samir and Seoud (2014) studied the effect of E-Learning on higher education. An open source, such as Moodle e-learning platform, has been implemented at many Egyptian universities. Moodle could be used as an aid to deliver e-content and to provide various possibilities for implementing asynchronous eLearning web-based modules. This study showed that the use of interactive features of e-learning increases the motivation of the undergraduate students for the learning process. This study has reported some important findings about online education, confuted others and presented a range of predictions about the future of online technology for educational purposes

Costa and Alvelos (2012) described a study carried out at the University of Aveiro (UA), Portugal that analyzes the functionalities and tools of the Moodle platform and their use by the students. The data was collected based on content analysis, one non structured interview with the Moodle from UA and a questionnaire applied to 278 students. The results showed that despite Moodle having great potential, it is mainly used as a repository of materials. However, students recognized the importance of the

use of other functionalities of this platform in order to promote the success of the teaching/learning process

2.4 RESEARCH STUDIES ON CANVAS

Malaveer (2023) investigated the relationship between the use of the Canvas platform and significant learning in university level students from Ugel 15. A quantitative approach was used. The sample was census and consisted of 75 college level students from 3 educational institutions belonging to UGEL 15. The technique applied was the survey, The instruments were two questionnaires. The results obtained showed that the variables studied have a direct and significant correlation, Likewise, the results referred to interactivity, virtual resources, flexibility and the formative action of the Canvas platform showed that there is a positive and significant relationship with meaningful learning .Furthermore, it established the usefulness of the Canvas Instructure.

Virginya (2023) reviewed the students' perception on the use of Canvas Instructure in a blended classroom by the students in the University of Politeknik , Negeri Ba . The need of the study arised due the epidemic era when e -learning was required which forms the only means to deliver instruction. The Descriptive survey method was used as the research method . Questionnaire and Semi Structured interviews were used as the tool for collection of Data . 108 students formed the sample size of the study who were given a questionnaire and semi structured interviews. The conclusion showed that students are generally in favor of using Canvas Instructure in flipped ESP classes. Moreover, the majority of students agreed that Canvas Instructure is user friendly and it helped them to learn English more effectively, and made it straightforward for them to access the course materials. The result recommended that Canvas Instructure should be widely used for all the disciplines.

Kovacs (2022) investigated the Learning management system in Transylvanian Higher Education Institutions. The technique used for the purpose of Data Collection was in depth interviews from the students enrolled in the popular university of Transylvanian . help the learning process by providing a central location to access material online and to develop content. The study revealed that the investigator also analyzed how learning content was poured to the students. The results shows that the

Canvas was not so widely used by the teachers as compared to google meet and Teams. The faculty of Computer Science and Mathematics preferred Canvas as one of the Lms.Moreover the faculties were using alms for the administrative purpose prior to the Covid arena.

Mpungose (2022) studied the experiences of the postgraduate students on the use of Moodle and Canvas Learning management systems. A Qualitative case study method was employed for the purpose of research. Flyers and planned sessions were used to recruit the students. The 36 students were selected as the sample but 5 students were suspended So 31 students formed the sample size for the study. The reflected Emails, interviews through ZOOM application were the instruments of Data Collection. The results indicated that the students used LMS (Canvas) primarily for the formal learning. Moreover, students found the online recorded lectures quite useful during the pandemic

Wraith (2022) investigated the combined use of Canvas and Blackboard Learn platforms, in the Teaching Innovation module of the Master's Degree in Teacher Training at the European University of Valencia. Questionnaire was used as an instrument of collection of Data. A group of 76 students participated in this study. Canvas was created to make teaching and learning easier for all students. The results obtained have been satisfactory for both the university students and the professor, since it has allowed improving the academic results and making the students more constant in the follow-up of the subject, so the combination of both platforms in this study has meant a high degree of innovation and successful

William and Sabbagh (2022) reviewed a study that aimed to investigate Canvas (LMS) used at KTH Royal Institute of Technology (KTH). The Survey method was employed as the Research Method . 175 responses were received from the students of KTH that constituted the sample size. The results highlighted that the students faced a serious issue with Canvas. The results also witnessed the reason for the issue was the inconsistency in the usage. Moreover, the study recommended that KTH should introduce some form of standard template for new course pages for enhancement of usability and student satisfaction.

Garcia and Ligas (2021) studied the acceptance and the adoption of Canvas as a new Learning Management System on a Web-Based Platform and its potential as a web-based platform in the e- learning programme of the University of the East. The study also assessed the readiness of the students in using the Canvas . Descriptive survey method was employed in the present study. Sample of 214 students of the University of the East through snowball sampling Different analysis were taken into consideration. The validity of the model , Correlation of the construct and the ease of the use , perceived usefulness and attitude were studied using Exploratory Factor Analysis , Structural Model equation and TAM respectively .The study revealed that students' perceived usefulness and attitude towards using the Canvas LMS in a web-based platform have significant effects on their intention to use Canvas. The study also focused on the perception of the students the usefulness of Canvas Furthermore, educational institutions should explore technological migration related to teaching and learning processes.

Santiana and Silvani (2021) investigated the students' perception towards the use of Canvas to promote interactive online learning. Implementing case study was used as the research design The Questionnaire and Semi Structured interviews were used as the Instrument of Data Collection. 77 students Contributed as the respondents for the Study. Both the quantitative data and Qualitative data were analyzed using descriptive statistics and thematic analysis respectively. The findings of this study revealed that students accessed Canvas ranging for less than 1 hour to more than 2 hours in a week. They mostly accessed it to join some learning activities designed by the teacher, including reading the learning modules, joining online discussion, and doing the assignments given by the teachers. In addition, they also perceived that using Canvas motivated them, and made the learning process more interesting. Therefore, teachers can optimize various features provided by Canvas to make the teaching and learning process in online settings become more interactive, interesting, and effective.

Sarah and Ruslan (2021) explored the utility of the Learning Management System(Canvas) in teaching English . In this study, a qualitative case study design was used . The study included 6 students from the University level who took technology enhanced Language Learning Classrooms and they used Canvas actively. The data were taken from the document of Canvas activities and interview. The

finding contributed to the significance of digital platforms, especially LMS, in developing students' interaction with both the teacher and other students, engaging with the course content and giving positive implications for ELT.

Yakubu & Dasuki (2019) had examined the factors affecting the adoption of e-learning technologies among higher education students in Nigeria: A structural equation modeling approach. The study employed the unified theory of acceptance and use of technology (UTAUT). The online survey method was used to collect data from 286 students of a higher education institution in Nigeria. The maximum likelihood method based on structural equation modeling (SEM) using IBM Amos 22.0 application was used to analyze the data . Facilitating conditions and behavioral intentions were determined to be salient factors that positively influence the actual usage of Canvas by the students. The results from the data obtained partially support the UTAUT's ability to explain the factors responsible for the acceptance of educational technology in developing countries, in Nigeria to be specific. Furthermore, the study contributed to the formulation of approaches and guidelines to enhance the adoption of educational technologies in developing countries.

2.5 CHAPTER SUMMARY

A total of 33 studies were referenced for the present study. Most of the studies on e-learning shows that factors like perceived usefulness, enjoyment, self-efficacy, ease of use, institutional preparedness, and prior experience positively influence students' acceptance and use of e-learning platforms. However, students still seem to prefer face-to-face instruction over e-teaching during lockdowns. For successful implementation of e-learning, developing quality content, training, and institutional support are critical. Regarding Moodle and Canvas specifically, studies find that they can increase motivation, independent learning, interactivity, accessibility, and effectiveness for students if implemented properly. However, the research also highlights challenges with user acceptance and consistent usage of these platforms. More work needs to be done by institutions to improve platform integration and provide training to enhance adoption by students and educators. Overall, e-learning platforms have significant potential for enhancing online education if human and technical barriers can be overcome through systematic efforts by universities. As far as the present educational system is concerned it is very important for everyone to

have knowledge about these e- learning platforms to compete with the world which is an age of technology.

CHAPTER-III

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter provides information about the population sample which has been the basis of research and provides a picture of the instrument used, collection and procedure employed for tabulation of data and also the statistical technique used. The chapter shows the detail of the procedure following in conducting this piece of research. In addition to this, it also provides a picture of the instruments employed for the analysis of data.

Research methodology is a way to solve the research problem in a systematic way. It may be interpreted as a science of studying complementary to it ,it gives us an overview of how research is done scientifically. The proper insight in any research work acquiesces positive and significant results. Research methods play an efficient role in a research process. Research is a never-ending phenomenon for searching the truth and gaining new knowledge in a planned and systematic way that helps us in correcting previous errors , misconceptions and adding something new in the existing body of knowledge(Dupak,2017).

In the present study, research methodology included following components: -

★ Design of the study

★ Method

★ Population and sample

★ Variables of the study

★ Tools Employed and its Description

★ Construction of tools

★ Procedure

★ Statistical Technique used

3.2 DESIGN OF THE STUDY

Research design may be directed as the plan of the study that will answer the objectives of the study. Research designs can be called as the specific procedures involved in the research process namely data collection, data analysis and report writing. Research design provides us a framework for the collection of data and helps us to analyze data. It can be called the conceptual structure within which the research is conducted. In a nutshell, the design of the research is the actual blueprint of the procedure for the completion of various research steps and reaching valid outcomes. In the present study, Questionnaire has been used for the collection of data in order to study the level of usage of Moodle and Canvas as a platform of e-learning courses by students enrolled in the higher education institutions.

3.2.1 Method

The research is valid in nature if its objectives are achieved. Looking at the nature of the investigation and in order to achieve the objectives of the present study, a descriptive survey method was used. It not only establishes certain principles but it also helps to explain the present situations systematically and the things that recently happened. Moreover, the Descriptive method also uses survey techniques and intimates what persists in the actual environment and tries to devise new prints for resolving the issues and helps in improving the current situations in a certain time frame.

3.2.2 Population

Population refers to any collection of specified groups of human or non- human entities such as objects, educational institutions, time units and geographical areas. The population of the present study consisted of all the students enrolled in government and private colleges established in Jammu city and affiliated to University of Jammu and Cluster University of Jammu.

3.2.3 Sample

For the present study, 200 students were selected from different Colleges of Jammu district affiliated to Jammu University by using Simple Random Sampling technique. The students were further classified into six distinct categories- Gender (Male and Female), Type of Institutions (Government and Private) and Residential Background (Urban and Rural), Stream (Science, Commerce, Arts), Age(18-20, 21-23, 24+) , and Department(Undergraduate and Postgraduate).The details are given in Table 3.1 & 3.2 :

Table 3.1

Distribution of Sample for Institutions

The list of Institutions that were taken into account for the present study are stated below :-

S. No.	Name of the Institutions	Population	No of Students
1	MIER College of Education ,B.C Road Jammu (Private)	450	68
2	Padma Shri Padma Sachdev Government PG College for Women(Government)	210	30
3	Govt Gandhi Memorial Science College, Jammu.(Government)	300	44
4	Shri Pratap Memorial Rajput College of Commerce (Government)	221	31
5	M.A.M College (Government)	160	27
	Total	1341	200

The sample for the present study consisted of 200 students, which was 15% of the total population of 1,341 students studying in Higher education institutions.

Table 3.2

Categorization of Students with respect to gender, type of Institutions, residential background, stream, and age.

S.No.	Categorization of Students		Number	Total
1.	Gender	Male	58	200
		Female	142	
2.	Type of Institutions	Government	132	200
		Private	68	
3.	Residential Background	Urban	133	200
		Rural	67	
4.	Stream	Science	31	200
		Commerce	95	
		Humanities	74	
5.	Age	18-20	150	200
		21-23	22	
		24+	28	
6.	Department	UG	175	200
		PG	25	

3.2.4 Variables of the Study

A research question aims to ask about the relationship between two or more variables. In order to state the expected answer to the research question, a research hypothesis is formulated which determines the expected relationship between the dependent and independent variables. (Farugia,2010). The following variables have been taken into consideration for studies in the present research:-

A) Independent Variables

Independent Variables are those which may vary or change from person to person or situation. In other words, it is a variable that stands alone and isn't changed by the other variables you are trying to measure. The following are the independent variable of the present study:-

I. Type of Institutions (Government and Private)

II. Gender (Male and Female)

III. Residential Background (Rural and Urban)

IV. Age (18-20, 21-23 and above 24+)

V. Class (B.Ed. , M.Ed. , B.Sc. , B.Com. , BA.)

VI. Department (UG and PG)

VII. Stream(Science, Humanities & Commerce)

B) Dependent Variable

Dependent variable refers to the variable that depends on other factors. The following is the dependent variable of the present study :

I. Usage of Moodle and Canvas

3.3 SELECTION AND DESCRIPTION OF TOOLS

The present study includes two variables namely Usage of Moodle and Canvas, eLearning. The investigator referred to so many available tools for the purpose of the accomplishment of objectives of the study but as the study is recent in nature and tool was not available. So, the investigator used a self-devised tool of research.

Self-develop tool namely **Questionnaire on Usage of e-learning Platforms (QUeLP)** was used for knowing the level of usage of e-learning platforms among students enrolled in higher education institutions.

3.3.1 Construction of QUeLP

A systematic procedure was adopted by the investigator for the development of the tool. The procedure had following steps namely planning, preparation of preliminary draft, individual try-out, refinement, and group try out, validity and reliability of the tool and preparation of final version respectively. (Chadda,1996)

3.3.1.1 Planning

During planning, the structure of the scale in relation to variables was discussed. A blueprint was developed for the tool and structure of the tool was also taken into

account. The tool was divided into two sections- First section includes - instruction for tool and introductory part, information about personal detail items. Second section includes -items related to e-Learning Platforms, usage of Moodle and Canvas as e-Learning Platforms.

3.3.1.2 Preparation of Preliminary Draft

The investigator developed the initial draft and the items related to e-learning platforms. The items were written and computerized. The items consisted in the scale being simple and concise to avoid vagueness. The tool has been described below.

Questionnaire on Usage of e-learning Platforms (QUeLP)

The preliminary draft of the tool "QUeLP"

It consisted of three parts (i)Usage of e-learning platforms (ii) Usage of Moodle (iii) Usage of Canvas. Each part has 10 statements. There was a total of thirty items in the scale. These items were related to usage of ELMS. For each item 5 responses were given 'never', 'sometime' and 'always' 'rarely'.

Individual and group try out of tool

The preliminary draft of the tool was printed and given to one student of post graduate level for checking the clarity of the statements, appropriateness of the language and the pattern of responses against each statement given by her. After that the tool was administered on 10 students for group tryouts. The respondents were instructed to respond to all the statements and choose one option against each statement. They were also given an assurance that their responses would be used for research purposes only and they should be kept confidential . Time limit was set for giving responses (30-35 minutes), and the respondents were scored as per the options given by them. On the basis of their suggestions and observation by the investigator and under the guidance of experts, the research tool was refined.

Refinement of the tool

In the light of response given by the University level students during the individual and group try outs, refinement in research tool was carried out. On the basis of

suggestions provided by students, peers and experts, statements were refined and further modifications with regard to grammar, language, simplicity, conciseness ,scale etc. were embodied in this tool.

Scoring of the QUeLP Scale

Likert Scale was also used for the present study to assess the usage pattern of e-learning platforms as indicated in Table 3.4 & Table 3.5 .

Table 3.3

Scoring Pattern for Questionnaire on usage of e-learning platform

Responses	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Positive	5	4	3	2	1
Negative	1	2	3	4	5

Table 3.4

Scoring Pattern Questionnaire on usage of e-learning platform

Responses	Always	Often	Sometimes	Rarely	Never
Positive	5	4	3	2	1
Negative	1	2	3	4	5

Final Draft of the Tool

Final draft of the tool was developed. The QUeLP scale consists of 35 items and was divided into 4 Sections. The following are the sections :-

Sections of Final Tool

Section	Items	No of Items
A	Information about the Participant and MOOCs enrollment	5
B	Readiness for e-learning	10
C	Enrolled in MOOCs through Moodle or Canvas Platform	1
D	Usage of Moodle Platform	10
E	Usage of Canvas Platform	10

The tool was available in the printed form given in Appendix A and also available in Google form.

3.3.1.3 Validity and Reliability of the Tool

The QUeLP scale was given to experts in education and technology. The valuable suggestions were provided by the subject and technology expert that were taken into consideration to set the pattern of items for the present study. Hence, the Face and Content Validity was established by the language and subject experts. The investigator also established the reliability of the QUeLP scale, for that data was collected from a sample of 200 Higher Education level students. There were 35 items in the QUeLP Scale. The Reliability of QUeLP Scale was computed by using SPSS as shown in Table 3.5.

Table 3.5

Internal Consistency Reliability (Cronbach's Alpha Coefficient) for the QUeLP Scale.

n=200

Scale Name	No. of Items	Cronbach's Alpha Reliability
QUeLP Scale	35	0 .975

Table 3.5.1

Internal Consistency Reliability (Cronbach's Alpha Coefficient) for the statements in

Statement	No. of Items	Cronbach's Alpha Reliability
Readiness of e-learning	10	0.932
Usage of Moodle platform	10	0.994
Usage of Canvas platform	10	0.996

QUeLP Scale for measuring usage of e-learning platforms. n=200

To achieve the research objectives, the investigators utilized an instrument tailored specifically for the study's requirements.

3.4 DATA COLLECTION

The researcher personally visited the colleges to gather data. Initially, they met with the institution's head, presenting a permission letter from their college and explaining the data collection purpose. The researcher reassured the colleges about the process's transparency and the confidentiality of the information.

The survey tool was initially given to each head of the departments of different institutions. Afterward, the investigator was asked to wait for a while. The head of the department scheduled a time for data collection, which was referred to the department as a whole.

At the appointed time, the investigator visited the classroom and explained the study's purpose to the students. Clear instructions for completing the questionnaire were provided. The students were assured that their responses would be kept confidential, encouraging them to answer the questions honestly and sincerely.

In this manner, the survey was conducted in the selected colleges, and the investigator successfully collected the data.

The data collected for the present study was quantitative in nature. The quantitative data has been measured by a tool namely **"Questionnaire on Usage of e-learning Platforms (QUeLP)"** The respondents and Professors were very cooperative and helped the investigator to get the data on the scheduled time.

3.5 STATISTICAL TECHNIQUES EMPLOYED

After the collection of the data, it was organized related to different aspects by the investigator. The investigator has analyzed data by using the following statistical technique:

1. Percentage
2. t-Test
3. One Way ANOVA

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

The analysis and interpretation of the data are the next most crucial steps in the research process after data gathering. It is essential to the research process in order to produce reliable conclusions and accurate generalizations (Nadeem, 2017, p. 80). In order to identify numerous underlying facts, it requires taking into account the data presented in tabular form. To facilitate analysis, the data is broken down into a variety of straightforward elements and rearranged for improved interpretation of the findings (Sidhu, 1996). Drawing conclusions from the data collected is assisted by interpretation. It is not a routine procedure. The results must be critically assessed in light of the researcher's varied data collection restrictions. It is one of the most crucial steps in the entire study process (Sharma, 1993).

4.2 RESULTS AND FINDINGS

Responses of the students collected through a tool Questionnaire on usage of e learning platforms (QUeLP) were analyzed using SPSS 14. Results have been presented according to the objectives set for the present study.

4.2.1 Research Objective 1

Objective 1 : To study the status of enrollment of higher education institution students in Massive Open Online Courses (MOOCs) through e-learning platforms.

In order to examine the status of enrollment of students, the frequency and percentage of the responses were computed for the data with respect to gender, stream, class, institution, age, residential background, and department on the question, 'Are you enrolled in any Massive Open Online Courses (MOOCs) through SWAYAM and other platforms?' Results are presented in Fig 4.1.

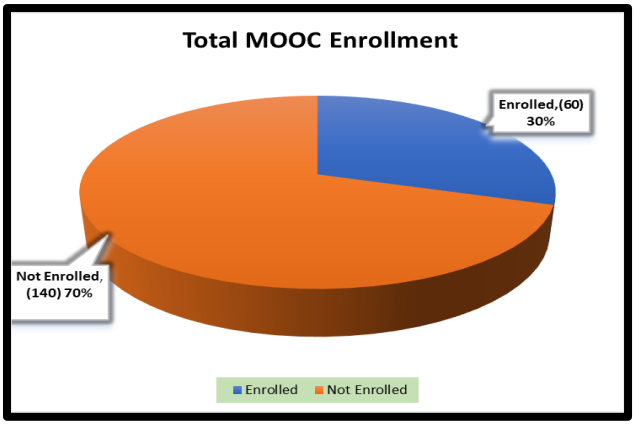


Fig 4.1 Total number of students enrolled in 'MOOCs'

The graphical representation (Fig 4.1) illustrates that 30% of the respondents affirmatively answered 'Yes' for the question and 70% of the respondents said 'No' for the question. This indicates that, out of a total of 200 students, only 60 (30%) students are currently participating in MOOCs. In order to find group-wise status of enrolments, the percentages were computed for all independent variables,

❖ **Enrollment in MOOCs with respect to Gender**

In order to examine the status of enrollment of students with respect to gender, the frequency and percentage of the responses were computed on the question, 'Are you enrolled in any Massive Open Online Courses (MOOCs) through SWAYAM and other platforms?' Results are presented in Fig 4.1.1.

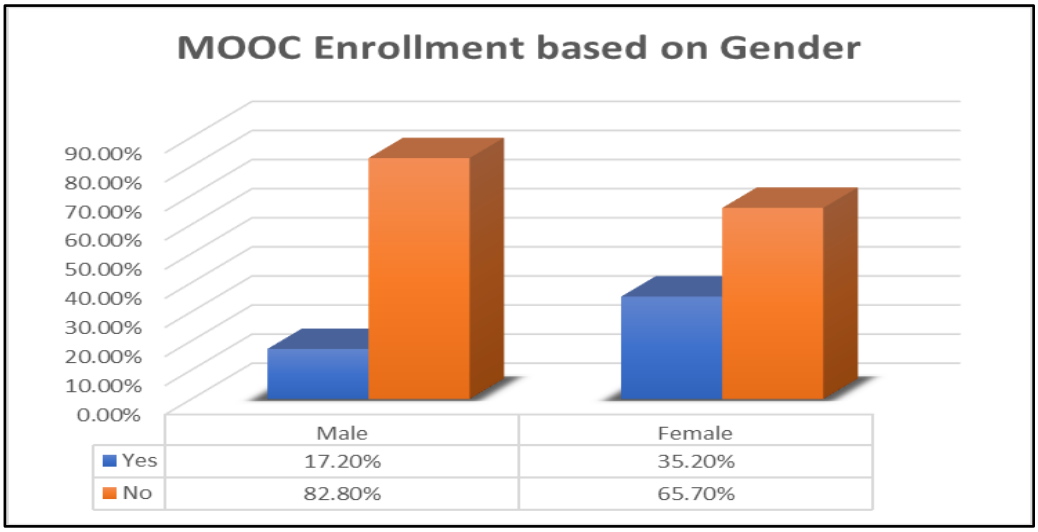


Fig 4.1.1 Graphical representation of number of students enrolled in 'MOOCs' with respect to gender

The Figure 4.1.1 revealed that 10 (17.20%) of the number of male students said Yes to the statement However 48 (82.80%) of the male students said 'No' for the statement. For Female students , the figure revealed that 50 (35.20%) and 92 (65.70%) said 'Yes' and 'No' to the statement respectively.

❖ **Enrollment in MOOCs with respect to age**

In order to examine the status of enrollment of students with respect to age, the frequency and percentage of the responses were computed on the question, 'Are you enrolled in any Massive Open Online Courses (MOOCs) through SWAYAM and other platforms?' Results are presented in Fig 4.1.2.

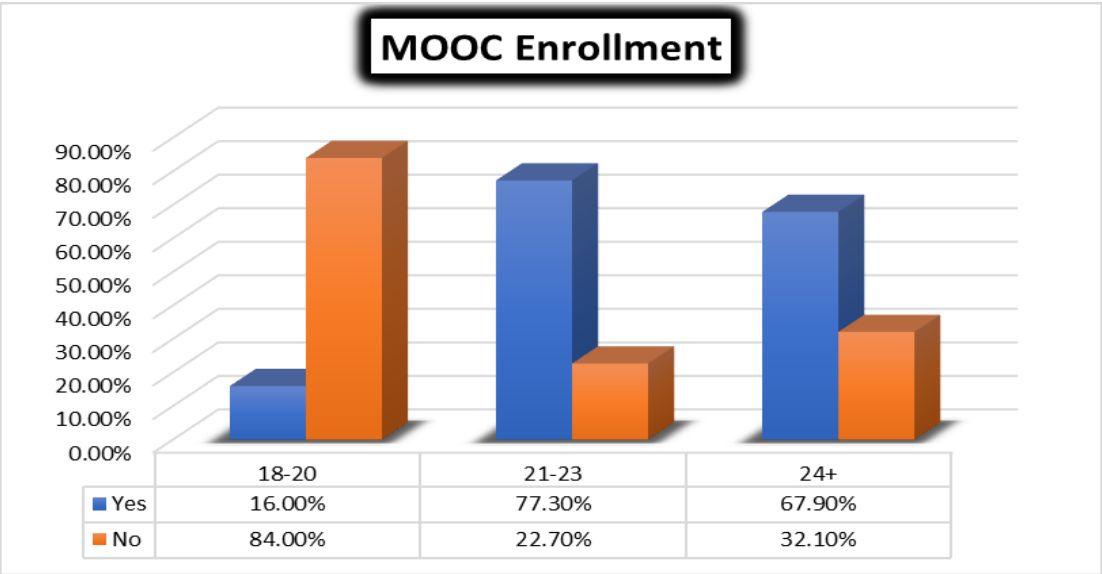


Fig 4.1.2 Graphical representation of number of students enrolled in 'MOOCs' with respect to age

The Figure 4.1.2 revealed that 24(16%) of the number of students between age group (18-20) said Yes to the statement However 126 (84 %) of the students of age group (18-20 years) said 'No' for the statement. For students of age group (21-23), the figure revealed that 17(77.3%) and 5 (22.7%) said 'Yes' and 'No' to the statement respectively. With respect to 24+ students 19(67.9%) said 'Yes' to the statement whereas 9(32.1%) said 'No' to the statement .

❖ **Enrollment in MOOCs with respect to class**

In order to examine the status of enrollment of students with respect to class, the frequency and percentage of the responses were computed on the question, 'Are you enrolled in any Massive Open Online Courses (MOOCs) through SWAYAM and other platforms?' Results are presented in Fig 4.1.3.

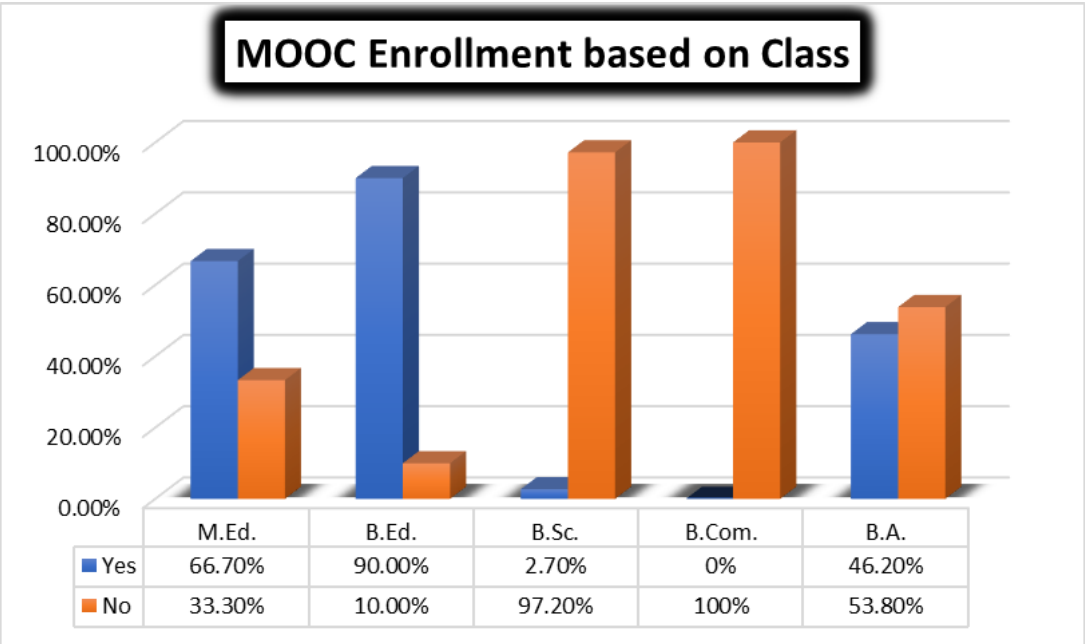


Fig 4.1.3 Graphical representation of number of students enrolled in 'MOOCs'with respect to class

The Figure 4.1.3 revealed that 16(66.7%) of the number of M.Ed. students said Yes to the statement. However, 8 (33.3%) of the M.Ed. students said 'No' for the statement. For students of B.Ed., the figure revealed that 18(90%) and 2 (10%) said 'Yes' and 'No' to the statement respectively. With respect to B.Sc. 2(2.8%) said 'Yes' to the statement whereas 71(97.2%) said 'No' to the statement.0 (0%) and 31(100%) Students enrolled in B.Com stream said 'Yes' and 'No' to the statement. With respect to B.A. 24(46.2%) said 'Yes' to the statement whereas 28(53.8%) responded 'No' to the statement.

❖ **Enrollment in MOOCs with respect to stream**

In order to examine the status of enrollment of students with respect to stream, the frequency and percentage of the responses were computed on the question, 'Are you

enrolled in any Massive Open Online Courses (MOOCs) through SWAYAM and other platforms?' Results are presented in Fig 4.1.2.

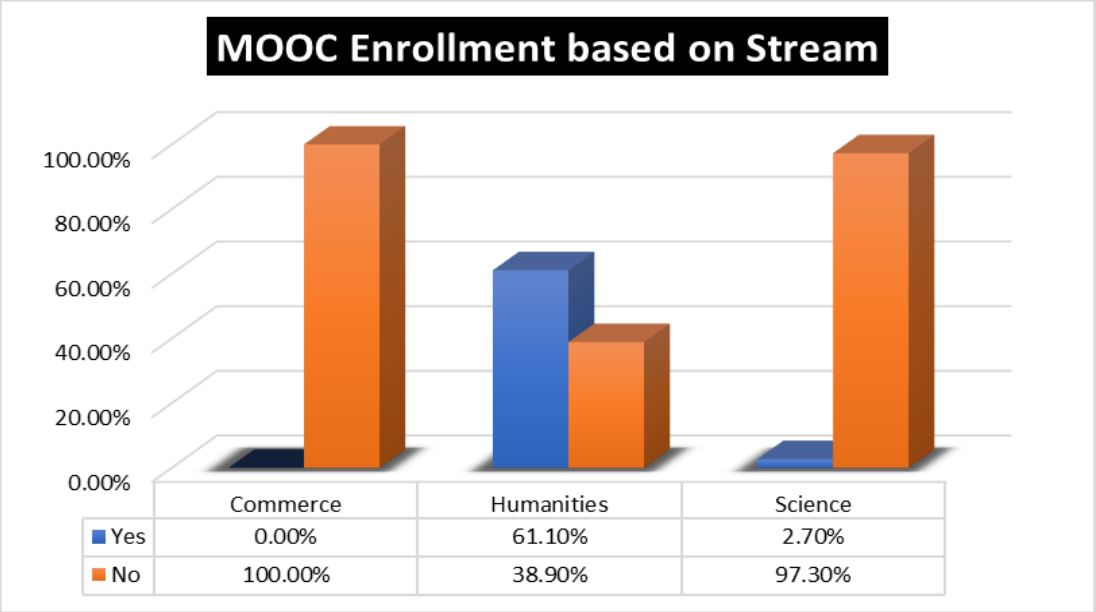


Fig 4.1.4 Graphical representation of number of students enrolled in 'MOOCs'with respect to stream

The Figure 4.1.4 revealed that 0 (0%) of the number of Commerce students said Yes to the statement. However, 31 (100%) of the Commerce students said 'No' for the statement. For students of Humanities, the figure revealed that 58(61.1%) and 37 (38.9%) said 'Yes' and 'No' to the statement respectively. With respect to science 2(2.7%) said 'Yes' to the statement whereas 72(97.3%) said 'No' to the statement.

❖ **Enrollment in MOOCs with respect to institution**

In order to examine the status of enrollment of students with respect to institution, the frequency and percentage of the responses were computed on the question, 'Are you enrolled in any Massive Open Online Courses (MOOCs) through SWAYAM and other platforms?' Results are presented in Fig 4.1.2.

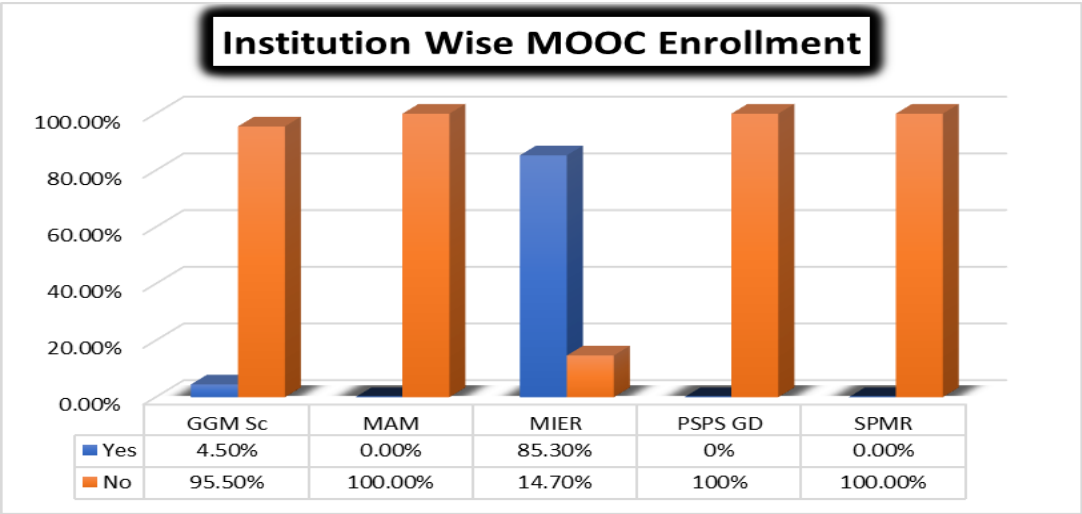


Fig 4.1.5 Graphical representation of number of students enrolled in 'MOOCs'with respect to institution

The Figure 4.7.1 revealed that 2(4.5%) of the number of students of GGM SC College said Yes to the statement. However, 42 (95.5%) of the GGM SC College students said 'No' for the statement. For students of M.A.M College, the figure revealed that 0(0%) and 27 (100%) said 'Yes' and 'No' to the statement respectively. With respect to MIER 58(85.3%) said 'Yes' to the statement whereas 10(14.7%) said 'No' to the statement. 0(0%) and 31(100%) Students enrolled in PSPS GD said 'Yes' and 'No' to the statement. With respect to SPMR College students 0(0%) said 'Yes' to the statement whereas 31(100%) responded 'No' to the statement.

❖ **Enrollment in MOOCs with respect to residential background**

In order to examine the status of enrollment of students with respect to gender, the frequency and percentage of the responses were computed on the question, 'Are you enrolled in any Massive Open Online Courses (MOOCs) through SWAYAM and other platforms?' Results are presented in Fig 4.1.2.

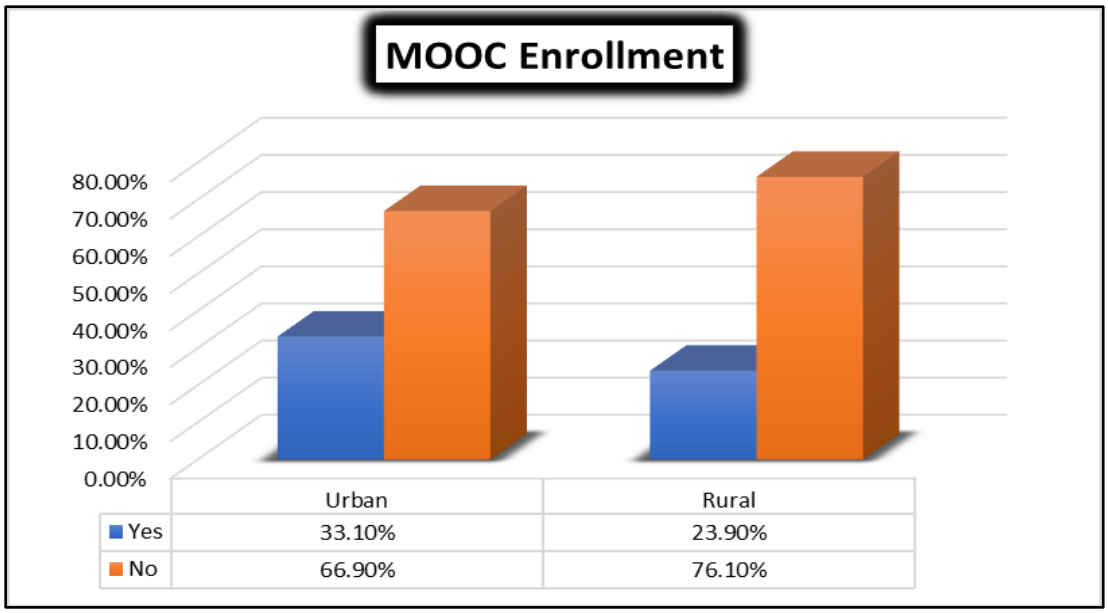


Fig 4.1.6 Graphical representation of number of students enrolled in 'MOOCs'with respect to residential background

The Figure 4.1.6 revealed that 44 (33.1%) of the number of students who belong to Urban areas said Yes to the statement. However, 89 (66.9%) of the students residing in Urban areas said 'No' for the statement. For students in Rural areas the figure revealed that 16 (23.9%) and 51 (76.1%) said 'Yes' and 'No' to the statement respectively.

4.2.2 Research Objective 2

Objective 2 : To study the e-learning habits of the student in terms of readiness through e-learning platforms for pursuing their higher education.

In order to examine the readiness for using the e-learning platform the frequency and percentage(%) were computed for the data through the question comprising statements regarding e-learning platforms. Here Always (Every Hour), Often (Every day) ,Sometimes (Every week), Rarely (Every Month) and Never (Not Used) for the following questions.

Table 4.1

Responses of the students on Readiness for using online platforms

Sr.	How often do you do the following?	Always	Often	Sometimes	Rarely	Never
1	Use smartphones/ computers in the learning process	96 (48%)	50 (25%)	34 (17%)	5 (2.5%)	15 (7.5%)
2	Use internet for homework and studies	81(40.5%)	66 (33%)	29 (14.5%)	9 (4.5%)	15 (7.5%)
3	Communicate through emails/ chats groups	67 (33.5%)	48 (24%)	50 (25%)	17 (8.5%)	18 (9%)
4	Taking e-exams or ICT based quizzes	27 (13.5%)	64 (32%)	49 (24.5%)	25 (12.5%)	35 (17.5%)
5	Share documents, PowerPoint presentations through meetings	32 (16%)	46 (10%)	59 (29.5%)	20 (10%)	43 (21.5%)
6	Participate in online extra/co-curricular activities	25 (12.5%)	39 (19.5%)	64 (32%)	32 (16%)	40 (20%)
7	Submit assignments etc.	66 (33%)	53 (26.5%)	37 (18.5%)	16 (8%)	28 (14%)
8	Creating online notes, projects (making videos)	46 (23%)	46 (23%)	48 (24%)	18 (9%)	42 (21%)
9	Make or Fill Online forms/ attempt quizzes	46 (23%)	72 (36%)	38 (19%)	20 (10%)	24(12%)
10	Get documents online or check results online	95 (47.5%)	35 (17.5%)	36 (18%)	10 (5%)	24 (12%)
	Total	29%	25%	22%	8.6%	15.4%

On the basis of analysis of responses given by the students Table 4.1 depicts that:

1. About 73% of students use their smartphones for learning every day or every hour. 17% use them for learning every week, while 10% don't use smartphones for learning.

2. Approximately 73.5% of students use the internet for homework and studies every day or every hour. 14.5% use it every week, but 12% don't use the internet for homework.

3. About 57.5% of students communicate through emails or chat groups every day or every hour. 25% do this every week, and 17.5% don't use these communication methods.

4. Around 45.5% of students take e-exams or ICT-based quizzes every day or every hour. 24.5% do so every week, while 30% don't take these types of tests.

5. Approximately 78% of students share documents and PowerPoint presentations through meetings every day or every hour. 29.5% do it every week, and 31.5% don't share documents through meetings.

6. About 32% of students participate in online co-curricular activities every day or every hour. Another 32% do this every week, and 36% don't take part in online co-curricular activities.

7. Around 56.5% of students submit assignments every day or every hour. 18.5% do this every week, and 22% don't submit assignments.

8. Approximately 46% of students create online notes and projects every day or every hour. 24% do this every week, while 30% don't create online notes or projects.

9. About 59% of students make or fill out online forms and attempt quizzes every day or every hour. 19% do this every week, and 22% don't engage in these activities.

10. Roughly 65% of students get documents online or check results online every day or every hour. 18% do it every week, and 17% don't use online resources for this purpose.

From Table 4.1, it can be concluded that the 54% students showed their readiness towards e-learning platforms whereas 22% of the students used the eLearning platform occasionally. However, 24% students have shown uncertainty with respect to readiness to eLearning by using various online platforms.

4.2.3 Research Objective 3

Objective 3 : To study the differences in usage of e- learning platforms by the students pursuing higher education with respect to their Gender, age, class, stream, institution ,residential background, and department.

H1: Gender

For achieving objective 3, the scores were computed and Hypothesis 1 i.e., "there is no significant differences in the usage of e-learning platforms by the students with respect to gender" was tested by using t test and the results have been shown in the Table 4.2.

Table 4.2

Values of N, Mean, S.D., S.Em and t for the scores obtained by the students on usage of e-learning platforms with respect to their Gender

Gender	N	Mean	SD	SE_M	df	t	Significance
Male	58	31.03	11.359	1.491	198	3.61	0.01
Female	142	36.20	8.152	.684			

Table 4.2 shows that the t-value (3.61) for students studying in higher educational institutions has been found to be significant at 0.01 level of significance for usage of e-learning platforms. Further, from the mean values, it is clear that female students use e-learning platforms more as compared to male students.

However, in the light of above findings, Hypothesis **1** stating that "there is no significant differences in the usage of e-learning platforms by the students with respect to gender" stands rejected.

H2: Age

For achieving objective 3, the scores were computed and Hypothesis 2 i.e., "there is no significant differences in the usage of e-learning platforms by the students with respect to age groups" was tested by using one way ANOVA and the results have been shown in Table 4.3.

Table 4.3

Summary of ANOVA for the usage of e-learning platforms by the students with respect to different age groups.

Source of Variation	Sum of Square	df	Mean Square	F	Significant
Between group	1275.301	2	637.650	7.590	0.01
Within groups	16550.294	197	84.012		
Total	17825.595	199			

Table 4.3 shows the calculated F-ratio for the usage of e-learning platforms is 7.590. The calculated value (7.590) is more than Table Value 6.76 (.01 level) against 2 and 197 df, which is significant. It clearly shows that there is a significant difference between usage of e-learning platforms by higher education institution students with respect to different age groups.

Therefore, Hypothesis **2** stating "there is no significant differences in the usage of e-learning platforms by the students with respect to different age groups" is rejected. This means that there is a difference in usage pattern by the students for different age groups.

To find out which group is making significant differences, a Post Hoc test was performed. The results are depicted in table 4.4.

Table 4.4

Multiple comparison of age groups using LSD (Least Significant Difference)

Age Group	Mean Difference	Significance
18-20 vs. 21-23	2.841	Not Significant
18-20 vs. 24+	7.185	**0.05**
21-23 vs. 24+	4.344	Not Significant

Table 4.4 shows that the students under 20 years old and those who are 24 or older had a significant difference in their scores. In simpler terms, younger and older students use e-learning platforms in significantly different ways. However, No significant differences between the age groups of 21-23 and 24+ or between those under 20 and 21-23. This means that these groups are more similar in how they use e-learning.

H3: Class

For achieving objective 3, the scores were computed and Hypothesis 3 i.e., "there is no significant differences in the usage of e-learning platforms by the students with respect to class" was tested by using one way ANOVA and the results have been shown in Table 4.5.

Table 4.5

Summary of ANOVA for the usage of e-learning platforms by the students with respect to different classes.

Source of Variation	Sum of Square	df	Mean Square	F	Significant
Between group	4430.125	4	1107.531	9.720	0.01
Within groups	22219.375	195	113.946		
Total	26649.500	199			

Table 4.5 shows the calculated F-ratio for the usage of e-learning platforms is 7.590. The calculated value (9.720) is more than Table Value 3.45 (.01 level) against 4 and 195 df, which is significant. It clearly shows that there is a significant difference between usage of e-learning platforms by higher education institution students with respect to different classes.

Therefore, Hypothesis **3** stating "there is no significant differences in the usage of e-learning platforms by the students with respect to different classes" is rejected. This means that there is a difference in usage pattern by the students for different classes.

To find out which group is making significant differences, a Post Hoc test was performed. The results are depicted in table 4.4.

Table 4.6

Multiple comparison of Classes using LSD (Least Significant Difference)

I (Classes)	J (Classes)	Mean Difference	Significance
M.Ed.	B.Ed.	2.000	NS
	BA	14.713*	**0.05**
	B.Sc.	8.380*	**0.05**
	B.Com.	5.524	NS
B.Ed.	BA	12.173*	NS
	B.Sc	6.380*	**0.05**
	B.Com	3.524	NS
BA	B.Sc.	5.793*	**0.05**
	B.Com.	8.649*	**0.05**
B.Com.	BA	8.649*	**0.05**
	B.Sc	2.856	NS
B.Sc	B.Com	2.856	NS

***Significant at 0.05 level**

Table 4.6 presents the outcomes of multiple comparisons of different academic classes, employing the Least Significant Difference (LSD) method. The table displays

pairwise comparisons between these classes, denoted as I and J, along with the mean differences and significance levels for each comparison. Significance, marked by an asterisk (*) at the 0.05 level, indicates statistically significant differences, while "NS" signifies non-significant differences. First, when comparing M.Ed. and B.Ed. classes, the mean difference of 2.000 is found to be non-significant (NS), suggesting that there is no significant divergence between these two types of educational programs with respect to the measured attribute. Conversely, significant differences are observed in the following comparisons: BA and B.Ed., B.Sc. and B.Ed., BA and B.Sc., BA and B.Com., and B.Sc. and B.Com. In these cases, the mean differences differ significantly at the 0.05 level regarding the attribute being examined. However, the comparison between B.Com. and B.Ed. shows a mean difference of 5.524, which is not statistically significant (NS), indicating that there is no significant distinction between these two class with respect to usage of e-learning platforms.

H4: Stream

For achieving objective 3, the scores were computed and Hypothesis 4 i.e., “there is no significant differences in the usage of e-learning platforms by the students with respect to stream” was tested by using one way ANOVA and the results have been shown in Table 4.7.

Table 4.7

Summary of ANOVA for the usage of e-learning platforms by the students with respect to different streams.

Source of Variation	Sum of Square	df	Mean Square	F	Significant
Between group	239.578	2	119.789	0.894	NS
Within groups	26409.922	197	134.061		
Total	26649.500	199			

Table 4.7 shows the calculated F-ratio for the usage of e-learning platforms is 0.894. The calculated value (7.590) is more than Table Value 6.76 (.01 level) against 2 and 197 df, which is not significant. It clearly shows that there is no significant difference between usage of e-learning platforms by higher education institution students with respect to different age groups.

Therefore, Hypothesis **4** stating "there is no significant differences in the usage of e-learning platforms by the students with respect to different streams" is accepted. This means that there is no difference in usage pattern by the students pursuing different streams.

H5: Institution

For achieving objective 3, the scores were computed and Hypothesis 5 i.e., "there is no significant differences in the usage of e-learning platforms by the students with respect to Institutions" was tested by using one way ANOVA and the results have been shown in Table 4.8.

Table 4.8

Summary of ANOVA for the usage of e-learning platforms by the students with respect to different institutions.

Source of Variation	Sum of Square	df	Mean Square	F	Significant
Between group	9622.502	4	2405.625	27.550	0.01
Within groups	170296.998	195	87.318		
Total	26649.500	199			

Table 4.8 shows the calculated F-ratio for the usage of e-learning platforms is 7.590. The calculated value (7.590) is more than Table Value 3.45(.01 level) against 4 and 195 df, which is significant. It clearly shows that there is a significant difference between usage of e-learning platforms by higher education institution students with respect to different institutions.

Therefore, Hypothesis **5** stating "there is no significant differences in the usage of e-learning platforms by the students with respect to different age groups" is rejected. This means that there is a difference in usage pattern by the students for different institutions .

To find out which group is making significant differences, a Post Hoc test was performed. The results are depicted in table 4.9.

Table 4.9

Multiple comparison of institutions using LSD (Least Significant Difference)

I (Institution)	J (Institution)	Mean Difference	Significance
MIER College of Education	GGM Science College	7.627*	0.05
	SPMR College	3.583	NS
	M.A.M College	21.883*	0.05
	PS GD College	4.475*	0.05
GGM Sc College	SPMR College	4.044	NS
	M.A.M College	14.256*	0.05
	PSPS GD College	3.152	NS
SPMR College	M.A.M College	18.300*	0.05
SPMR College	PSPS College	0.892	NS
M.A.M College	PSPS College	17.407*	0.05

*Significance at 0.05 Level

In Table 4.9, the investigator presents the results of multiple comparisons of institutions using the Least Significant Difference (LSD) method. The table consists of several pairwise comparisons between different institutions, denoted as I and J, along with the mean difference and significance levels for each comparison. Significance is indicated with an asterisk (*) and a significance level of 0.05 was employed as the threshold for determining statistically significant differences. First, the investigator compared MIER College of Education with GGM Science College, and the mean difference was found to be 7.627, which is statistically significant at the 0.05 level. This suggests a substantial variation between these two institutions regarding the utilization of Moodle and Canvas as eLearning platforms. Next, a comparison between SPMR College and M.A.M College showed a mean difference of 21.883, also significant at the 0.05 level. This indicates a considerable disparity in the use of eLearning platforms between these institutions. Similarly, the investigator compared PS GD College with GGM Science College, resulting in a mean difference of 4.475 and a significance level of 0.05, signifying notable differences in their eLearning practices. Further comparisons were made between SPMR College, M.A.M College, and PSPS GD College, with their respective mean differences and

significance levels presented in the table. Notably, all comparisons marked with an asterisk (*) indicate statistically significant differences, while "NS" signifies non-significant differences.

H6: Residential Background

For achieving objective 3, the scores were computed and Hypothesis 6 i.e., “there is no significant differences in the usage of e-learning platforms by the students with respect to residential background” was tested by using t test and the results have been shown in Table 4.10.

Table 4.10

Values of N, Mean, S.D., S.Em and t for the scores obtained by the students on usage of e-learning platforms with respect to their residential background

Residential Background	N	Mean	SD	SE_m	df	t	Significance
Urban	133	35.10	9.174	.795	198	0.83	Not Significant
Rural	67	33.93	10.041	1.227			

Table 4.10 shows that the t-value (0.83) for students studying in higher educational institutions has been found to be not significant at 0.05 level of significance for usage of e-learning platforms with respect to their residential background. Further, from the mean values, it is clear that urban students use e-learning platforms as compared to rural students. But there are no significant differences between the students with respect to residential background.

However, In the light of above findings, Hypothesis 6 stating that there is no significant differences in the usage of e-learning platforms by the students with respect to gender is accepted.

H7: Department

For achieving objective 3, the scores were computed and Hypothesis 7 i.e., “there is no significant differences in the usage of e-learning platforms by the students with

respect to department" was tested by using t test and the results have been shown in Table 4.11.

Table 4.11

Values of N, Mean, S.D., S.Em and t for the scores obtained by the students on usage of e-learning platforms with respect to their department

Department	N	Mean	SD	SE_m	df	t	Significance
PG	25	41.92	4.55	.911	198	3.80	0.01
UG	175	32.81	1.83	.894			

Table 4.11 shows that the t-value (3.80) for students studying in higher educational institutions has been found to be significant at 0.01 level of significance for usage of e-learning platforms. Further, from the mean values, it is clear that Postgraduate students use e-learning platforms more as compared to Undergraduate students.

However, In the light of above findings, Hypothesis 7 stating that there is no significant differences in the usage of e-learning platforms by the students with respect to gender stands rejected.

4.2.4 Research Objective 4

Objective 4 :-To study the preference of higher education students towards using Moodle and Canvas as MOOC platforms

In order to examine the preference of students, the frequency and percentage of the responses were computed for the data on the question, "Have you used Moodle/Canvas for Massive Open Online Courses (MOOCs) Yes & No ."The results are presented in the figure 4.6

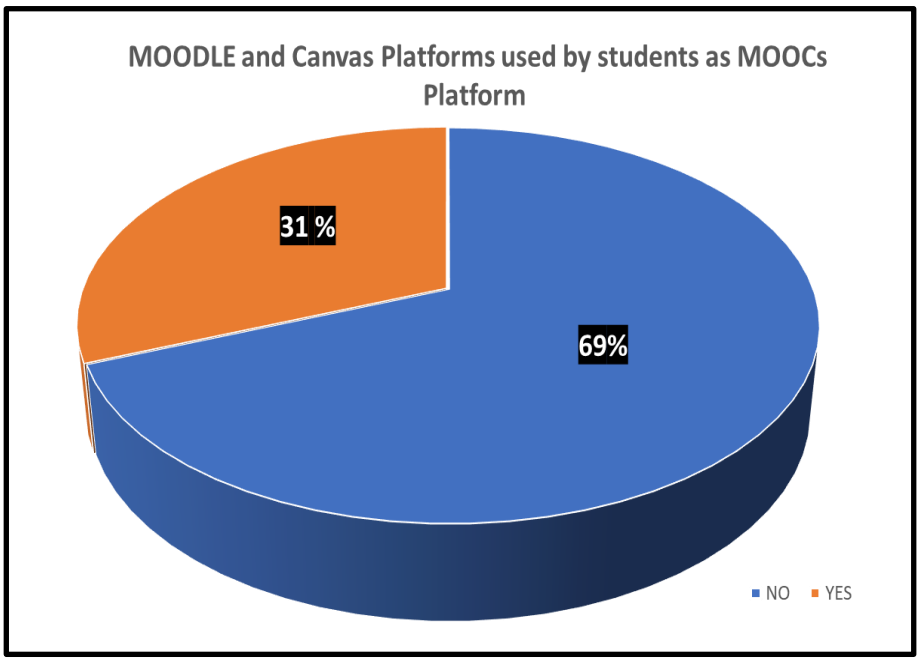


Fig 4.2 .1 Graphical representation of number of students preference for Moodle and Canvas as 'MOOCs' Platforms

The graphical representation (Fig 4.4) illustrates that 31% (62)of the respondents affirmatively answered 'Yes' for the question and 69%(138) of the respondents said 'No' for the question. This indicates that, out of a total of 200 students, only 62 (31%) students have used Moodle and Canvas platform for massive Open Online Courses (MOOCs).

4.2.5 Research Objective 5

Objective 5 :-To compare the level of usage of Moodle and Canvas as platforms for e- learning among the students pursuing higher education.

In this study, it's important to acknowledge a limitation regarding the sample size and selection biases. Out of the initial 200 participants who were part of the study, only 62 were found to be familiar with the e-learning platforms- Moodle and Canvas. It's crucial to recognize that the responses and findings presented in this objective are based on the subset of **62** participants who were aware of these platforms. The average score for the Moodle statements was **3.96**, which indicates that, on average, students tended to somewhat agree with the statements related to Moodle. This suggests a moderate level of satisfaction and usage of Moodle among the participants. In contrast, the Canvas section had an average score of **2.52**, indicating that, on

average, students tended to be in the middle between agreeing and disagreeing with the statements related to Canvas. This implies a somewhat lower level of satisfaction and usage of Canvas among the participants compared to Moodle. These findings show that, among the 62 participants who were aware of both platforms, Moodle appeared to be more favorably viewed and used for e-learning compared to Canvas.

4.3 CONCLUSION

This research has revealed significant disparities in higher education students' engagement with e-learning platforms and awareness of specific MOOCs. The study had several objectives. First, it aimed to check if students in higher education institutions were using e-learning platforms for Massive Open Online Courses (MOOCs). It found that 31% of the 200 students had used platforms like Moodle and Canvas for MOOCs. Second, it looked into how ready students were to use e-learning platforms. It found that 54% were ready, 22% used them occasionally, and 24% were uncertain. Third, the study checked if there were differences in platform usage based on gender, age, class, stream, institution, residential background, and department. It discovered differences based on gender, age, class, and institution. Fourth, the study examined students' preferences for Moodle and Canvas. It found that 31% had used Moodle and Canvas for MOOCs. Lastly, the study compared the usage of Moodle and Canvas. It revealed that students preferred Moodle over Canvas, with higher satisfaction and usage. Overall, the initial ideas we had at the beginning of the study were proven wrong.

CHAPTER-V

FINDINGS, CONCLUSIONS, EDUCATIONAL IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

5.1 INTRODUCTION

After the analysis and interpretation of data in the previous chapter, the present chapter presents the major findings of the study based on results given in chapter IV. In this chapter, the results are discussed to show how these findings are concurrent with some of the empirical studies already conducted in the field. At places, some of the observations did not concur with the findings of the same investigators. Keeping the major findings in view, the educational implications of the study have been worked out. As such some suggestions have been given for the further research. This chapter is therefore, devoted to focusing the findings, conclusion, discussion of results of the study and for indicating their implications and suggestions for further studies or research.

5.2 MAJOR FINDINGS OF THE STUDY

Following are the major findings that are based on the results of the present study:-

5.2.1 Research Objective 1

To study the status of enrollment of higher education institution students in Massive Open Online Courses (MOOCs) through e-learning platforms.

In order to study the status of enrollment of higher education institution students in Massive Open Online Courses (MOOCs) through e-learning platforms , the percentage and frequency had been calculated. The result shows that 60(30%) out of 200 students have enrolled in Massive Open Online Courses and 140 (70%) have not enrolled in MOOCs platforms.

The study's findings on group wise enrollment in Massive Open Online Courses (MOOCs) revealed differences based on various factors. Regarding gender, 82.8% of

male students had not enrolled in MOOCs, while 17.2% had, whereas 64.8% of female students had not enrolled, with 35.2% having done so. In terms of the study stream, all Commerce students had not opted for MOOCs, while 61.1% of Humanities students had, and 38.9% had not. In Science, 97.3% hadn't enrolled, with 2.7% having done so. Regarding class type, 33.3% of M.Ed. students hadn't enrolled, while 66.7% had, and 90% of B.Ed. students had enrolled, whereas 10% hadn't. All B.Com. students had not opted for MOOCs, and 53.8% of B.A. students had not, while 46.2% had. In terms of residential area, 66.9% in urban areas hadn't opted for MOOCs, with 33.1% having done so, while 76.1% in rural areas hadn't, and 23.9% had. Regarding age groups, 84% of students aged 16-20 had not enrolled in MOOCs, while 16% had, 22.7% of students aged 21-23 had not enrolled, and 77.3% had, and 32.1% of students aged 24+ hadn't enrolled, while 67.9% had. Regarding institution type, 95.5% in GGM Sc hadn't opted for MOOCs, while 4.5% had, 100% in MAM hadn't opted, 85.3% in MIER had opted, while 14.7% hadn't, 100% in PSPS GD hadn't opted, and 100% in SPMR hadn't opted for MOOCs.

5.2.2 Research Objective 2

To study the e-learning habits of the student in terms of readiness through e-learning platforms for pursuing their higher education.

From the results, it has been found that;

1. High Usage of Digital Devices and the Internet: A significant portion of the surveyed students (73%) reported using smartphones and computers in their learning process, with 73.5% using the internet for homework and studies. This indicates a high level of digital device and internet usage among higher education students, demonstrating their readiness for e-learning.

2. Communication and Collaboration: Over half of the students (57.5%) reported frequently communicating through emails and chat groups, while 26% actively shared documents and presentations online. This highlights their inclination to engage in online communication and collaborative activities, indicating readiness for virtual interactions.

3. Assessment and Evaluation: A substantial percentage (45.5%) of students reported frequently taking e-exams or ICT-based quizzes, indicating their willingness to participate in online assessments. This suggests that students are open to online evaluation methods, which is essential for e-learning readiness.

4. Participation in Online Activities: About 32% of students expressed active participation in online extra/co-curricular activities, emphasizing their willingness to engage in various online activities beyond academics. This broader engagement signifies a readiness for holistic e-learning experiences.

5. Assignment Submission and Content Creation: The majority of students (59.5%) frequently submit assignments online, and 46% are actively involved in creating online notes and projects. This shows their readiness to use digital tools for content creation and submission, a crucial aspect of e-learning.

6. Online Form Filling and Accessing Documents: A significant portion of students (59%) reported frequently making or filling online forms and attempting quizzes, while 65% accessed documents and checked results online. This indicates their comfort with online administrative tasks and accessing digital resources, reflecting e-learning readiness.

5.2.3 Research Objective 3

To study the differences in usage of e- learning platforms by the students pursuing higher education with respect to their gender, age, class, stream, institution ,residential background, and department.

From the results, it has been found that;

1. The investigator's study revealed a significant difference in the usage of e-learning platforms based on gender. Female students tended to use e-learning platforms more extensively compared to their male counterparts. This finding led to the rejection of the hypothesis that there would be no significant differences in the usage of e-learning platforms with respect to gender.

2. The investigation found a significant difference in e-learning platform usage across various age groups among higher education students. Younger and older

students exhibited distinct patterns of utilizing e-learning platforms. Consequently, the initial hypothesis suggesting no significant differences in usage concerning age groups was rejected.

3. The investigator found significant disparities in e-learning platform utilization among students in different academic classes, such as M.Ed., B.Ed., BA, B.Sc., and B.Com. This suggests that the class of students impacts their e-learning platform preferences and behaviors. As a result, the hypothesis proposing no significant differences in usage among different classes was rejected.

4. In contrast to the previous hypotheses, the study did not identify a significant difference in the usage of e-learning platforms based on students' streams of study. This indicates that the choice of academic stream does not significantly influence e-learning platform adoption.

5. The investigation demonstrated a noteworthy difference in the usage of e-learning platforms among students from different institutions. Each institution exhibited distinct e-learning platform usage patterns. Hence, the hypothesis suggesting no significant differences in usage across institutions was rejected.

6. The study found no significant difference in e-learning platform usage concerning students' residential backgrounds. While urban students tended to use e-learning platforms more than their rural counterparts, this difference did not reach statistical significance. Consequently, the hypothesis claiming no significant differences in usage based on residential background was accepted.

7. The investigator discovered a significant difference in e-learning platform usage with respect to students' departments, distinguishing between postgraduate and undergraduate students. Postgraduate students were found to use e-learning platforms more extensively than undergraduate students. Thus, the hypothesis initially suggesting no significant differences in usage by department was rejected.

5.2.4 Research Objective 4

To study the preference of higher education students towards using Moodle and Canvas as MOOCs platforms.

From the results, it has been found that;

- 62 students have preferred Moodle or Canvas as e-learning platforms which accounts for 31% of the sample.
- 138 students have not preferred Moodle or Canvas as e-learning platforms which accounts for 69% of the sample.

5.2.5 Research Objective 5

To compare the level of usage of Moodle and Canvas as platforms for e- learning among the students pursuing higher education.

In the context of the research objective, a key finding of this study is the limitation related to sample size and selection biases. Out of the initial 200 participants, only 62 were familiar with the e-learning platforms Moodle and Canvas. The responses and findings discussed in this objective are based solely on this subset of 62 participants who had prior awareness of these platforms. The average score for Moodle-related statements was 3.96, indicating a moderate level of agreement among students, suggesting a moderate level of satisfaction and usage of Moodle. In contrast, the average score for Canvas-related statements was 2.52, showing that students were somewhat neutral in their agreement with Canvas-related statements. This suggests a relatively lower level of satisfaction and usage of Canvas among the participants in comparison to Moodle. In summary, among the 62 participants familiar with both platforms, Moodle was found to be more favorably viewed and utilized for e-learning in this study. These findings suggest that Moodle is perceived more positively and used more extensively than Canvas among the participants who were aware of both platforms in the study.

5.3 DISCUSSIONS AND CONCLUSIONS

In the present study, the investigator sought to determine the usage of e- learning platforms by the students enrolled in higher education institutions . Descriptive survey method has been used. Self-devised *QUeLP Scale* was used, Questionnaire was employed to collect data from a sample of 200 higher education institution students, which was selected by using simple random sampling technique. After that analysis and interpretation was done by using Percentage Analysis, t-test and Analysis of Variance (ANOVA).

1. 30% are enrolled in moocs whereas 70 percent were not enrolled in such platforms. In the light above, finding our hypothesis No.1 stating that there is no difference in the status of enrollment of the higher education students in moocs is rejected.

2. 54% of students showed readiness for e-learning platforms, while 36% use eLearning platforms occasionally. However, 20% of students show uncertainty regarding readiness for e-learning. In the light of above finding hypothesis No. 5 stating that there is no difference in the e-learning habits of the students pursuing higher education is rejected. Like Gurban and Almogren's study (2022), the present study focuses on e-learning in higher education institutions, specifically students' interactions with e-learning platforms. Moreover, similar to Babalola's study (2023), the present study involves assessing the acceptance and utilization of e-learning platforms by students.

3. Females use more e-learning platforms as compared to male students. In the light of the above finding hypothesis No. 4 is rejected .While there is no significant difference in e-learning platform usage between urban and rural students. In the light of above finding hypothesis No. 2 stating that there is no significant difference in relation to gender is accepted.

4. There are significant differences with respect to age groups. The group of students aged 16-20 is significantly different in terms of e-learning platform usage compared to both the 21-23 and 24+ age groups. In the light of above

finding hypothesis No. 3 stating that there is no significant difference in usage of e-learning platforms with respect to age group is rejected.

5. Significant differences were found in awareness levels among different age groups regarding Moodle and Canvas as mooc platforms. Only 31% were aware about the platform with respect to gender . However, 32% were aware of Moodle and canvas platforms with respect to age. In the light of above finding hypothesis No. 6 stating that there is no significant difference in awareness level towards Moodle and canvas as moocs platforms is rejected. Similar to Rahmaity's study (2023), the present study looks into the technological competence of students using Moodle-based learning platforms, emphasizing students' experiences with these systems.

5.4 EDUCATIONAL IMPLICATIONS OF THE STUDY

"Any research is only valuable if it offers important lessons for education. Nowadays, many researchers are exploring the impact of technology, just like the National Education Policy of 2020 also highlights. In this study, investigator looked at how students in higher education use e-learning platforms. Education is important for the social and economic development of the country. This is the age of Information dominated by digital technology. E-learning platforms play an important role in today's world of technology.

Based on the findings, investigator suggest some practical insights for students, teachers, Institutions, and policymakers."

EDUCATIONAL IMPLICATIONS FOR STUDENTS

The following are the educational implications of the study for the students:-

1. The results showed that the students have not enrolled themselves in MOOCs . So, the students should actively explore the Massive Open Online Courses (MOOCs) as they can be a valuable supplement to traditional education.

2. Students should develop time in developing digital literacy and proficiency. This includes becoming comfortable with using digital devices, internet facilities and other online tools.

3. Students should focus on improving their communication and collaboration skills. This is crucial for effective engagement in digital learning platforms.

4. Students should be open to online learning and assessment . They should adapt the pattern of learning.

5. Students should engage in a variety of online learning beyond academics. This can include co-curricular activities, online projects for fostering overall learning of the students in higher education institutions.

EDUCATIONAL IMPLICATIONS FOR TEACHERS

The following are the educational implications of the study for the teachers:-

1. Educators can support students in enrolling in MOOCs by providing guidance and resources, facilitating a more diverse learning experience.

2. Offer workshops and training on digital proficiency to help students maximize the benefits of e-learning.

3. Teachers can provide guidance on effective online communication and collaboration, ensuring students can interact productively in digital spaces.

4. Utilize a variety of online assessment methods to accommodate students' willingness to engage in e-exams and quizzes.

5. Encourage students to participate in a range of online activities, both academic and non-academic, to foster holistic development.

EDUCATIONAL IMPLICATIONS FOR EDUCATIONAL INSTITUTIONS

The following are the educational implications of the study for the educational institutions:-

1. A significant percentage of students are actively using smartphones, the internet, and various online tools. Educational institutions should consider enhancing digital literacy programs to help students make the most of eLearning platforms.

2. Recognizing the gender-based differences in eLearning platform usage, educational institutions can provide support to ensure that both male and female students can benefit equally from online learning.

3. There may not be a significant difference in usage between urban and rural students, institutions should still ensure equal access to eLearning resources for students from different residential backgrounds.

4. There are significant differences in awareness levels regarding Moodle and Canvas among different age groups, institutions can focus on promoting these platforms as Massive Open Online Courses (MOOCs) and provide clear guidance on their benefits and usage.

5. Recognizing the readiness of a substantial portion of students for eLearning, institutions can offer a mix of traditional and online courses. This allows students to choose the learning mode that suits their preferences and needs, ultimately enhancing the overall educational experience.

6. Institutions should promote inclusivity in MOOC enrollment, ensuring that students from all backgrounds have access to these resources.

7. Institutions should allocate resources for digital infrastructure and support services to accommodate the high usage of digital devices and the internet among students.

8. Institutions should facilitate collaborative online platforms for students to enhance their communication and collaboration skills, aiding in their readiness for e-learning.

9. Institutions should invest in online evaluation tools and methods to adapt to students' willingness to participate in e-exams and quizzes.

10. Institutions should encourage a wide range of online activities beyond academics to create a vibrant e-learning environment

5.5 SUGGESTIONS FOR FURTHER RESEARCH

After conducting the study, the investigator is in a position to put forth a few suggestions for further studies in related areas.

1. A sample of 200 students from different Colleges of education from Jammu was taken in the present study. Similarly, study can be conducted on a larger sample to study the use of e-learning courses at other levels and other professional courses.

2. The present study cannot be called final and comprehensive; more work can be done on different samples of different age groups.

3. Similar study can be conducted on students studying at school level.

4. A similar study may be undertaken in other districts of Jammu and Kashmir.

5. Further study may also be conducted on students belonging to different areas. Similar studies can be conducted on people in different locality and economic backgrounds.

6. The study is purely based on students; it can be conducted on teachers, educators and other staff members of the institutions.

7. The study focuses on Moodle and Canvas platform. Similar studies can be conducted on other e-learning platforms like Swayam, Blackboard, google classroom etc.

8. Experimental study can also be conducted on government and private school students to compare their usage of e-learning platforms, as the present study was of descriptive nature.

SUMMARY

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TOPIC: USAGE OF MOODLE AND CANVAS AS A PLATFORM FOR E-LEARNING COURSES BY STUDENTS ENROLLED IN HIGHER EDUCATION INSTITUTIONS.

A. INTRODUCTION

Education is the aggregate of all the processes by which a person develops abilities, attitudes and other forms of behavior of practical values in the society in which s/he lives; the social process by which people are subjected to the influence of selected and controlled environment (especially that of the school), so that they may obtain social competence and optimum individual development (C.V. Good, 1973)

Education is a vital component for social, political and economic development of any nation. Likewise, the mode through which education is being imparted is also a great subject. Face to face as well as online or distance modes of education are equally contributing towards betterment of our educational growth. Face to face method is a well-tested and tried method of imparting education for the past many centuries and it is still prevailing in the whole world. On the other hand, technology is available in abundance these days and it has presented the educational field with the latest innovative techniques and tools of teaching and learning which can do wonders if utilized appropriately. (kirtie, 2020)

E-learning has been performing a main role in current teaching and learning. Earlier than the broad enhanced use of electronic learning, the established chalk and chat technique was used as a main way of teaching, where teachers use chalk to write on a blackboard and next convey a lecture. Nowadays in many universities, all traditional methods are now being replaced by modern techniques like multimedia presentations. Through multimedia presentation it is easy for learners to absorb ideas given in presentation. Teachers can show a number of audio or video information by

embedding them within a slide. It is a big question mark among teachers that what methods need to be retained or discarded. The online materials make it very easy to gather the right information. Moreover, it becomes very easy to produce multiple copies of the content for distribution. However, having overloaded and high-quality information does not necessarily prove the abilities of a learner or teacher. A teacher must know what information is right and best for students. At the same time, students must know how to learn or catch up with lessons more efficiently. Unfortunately, providing the best ideas to learn does not really help students because they fail to provide the best process of learning, and students fail to practice real-life situations during learning. For example, in the traditional classrooms, students need to be aware of classroom conditions strictly and need to take notes actively while listening to their teachers. They also learn how to live with fellow classmates, how to talk to teachers in person, and how to participate in different academic competition and this not only improves them psychologically but also physically (Rai & Chunrao, 2016).

Modern age is the age of science. Every aspect is deeply impacted by science; some regard it as a boon while others regard it as a curse. During Covid-19, all the institutions preferred E- learning as a platform for providing quality education with Efficacy.(Mercier,2021)

The Web-based learning is used nowadays as another option to the traditional system of Education (Face -to-Face). In fact, its use increases in a direct proportion with the increase of the number of students. Online learning applications are not a barrier to learning (Anuchai,2012)

This has made it possible for the educators to exert a lot of effort to help the learners to get interactive content that is full of multimedia as it has been proven that it has a significant effect on the process of learning. (Cartwright,1999)

B. E-LEARNING AND E-LEARNING PLATFORMS

E-learning, can be also termed as online learning or electronic learning, is the acquisition of knowledge which takes place through electronic technologies and media. In simple language, E-learning is defined as “learning that is enabled electronically”. Typically, E-learning is conducted on the Internet, where students can access their learning materials online at any place and time. E-Learning most often

takes place in the form of online courses, online degrees, or online programme.(Abbad,2009)"E-learning is the use of internet and digital technologies to create experiences that educate our fellow human beings."(Horton, 2001)

Garrison and Anderson (2003) defined E-learning participation as teaching and learning facilitated and supported by Internet technologies. E-learning has been introduced as a tool in the learning process in the majority of the international universities worldwide. The term "E-learning" is defined by [Horton ,2001] as "any learning that involves using the internet or intranet." A year later [Cheng,2006] made the definition more generalized by indicating that it is "anything delivered, enabled, or mediated by electronic technology for the explicit purpose of learning" . According to (Li & Masters, 2009) "e" in e-learning should not stand for electronic; it should be an abbreviation for "evolving, enhanced, everywhere, every time". "E-learning is the continuous assimilation of knowledge and skills by adults stimulated by synchronous and asynchronous learning events and sometimes knowledge Management Outputs - which are authored, delivered, engaged with, supported and administered using internet technologies."(Don Morrison 2003). "The delivery of a learning, training or educational Program by electronic means. E-learning involves the use of a computer or electronic device (e. g. a mobile phone) in some way to provide training, educational or learning material."(Derek Stockley 2003). E-learning is commonly referred to the intentional use of networked information and communications technology in teaching and learning."(Som Naidu2006).

An electronic learning platform is an integrated set of interactive online services that provide trainers, learners, and others involved in education with information, tools, and resources to support and enhance education delivery and management. eLearning platforms are a new method of teaching distant peoples as they have their own design and development processes in creating

effective teaching courses. A number of Learning Management Systems are available and they can be classified into two different categories viz. Open source LMS and Proprietary or Paid LMS. An open-source software is based on the concept of sharing and collaboration i.e.; anyone can use this software free of cost and they also get the access to the code of the software so that they can make changes to the code according to their usage. So open source LMS are freely available for usage. Moodle,

Open edX, Canvas, Sakai are some of the open source LMS. On the other hand, the Proprietary software is privately owned and if someone wants to use this software, they have to make a payment. Blackboard Learn, Do Cebo, TalentLMS, Looop, Go Skills, Easy LMS are some of the paid Learning management systems.

C. MOODLE AND CANVAS AS E-LEARNING PLATFORMS

Moodle is a Learning Management System, Course Management System, or Virtual Learning Environment, depending on which term you prefer. Its goal is to give teachers and students the tools they need to teach and learn. Moodle comes from a background of Social Constructionist pedagogy, however, it can be used to support any style of teaching and learning. There are other types of software systems that are important for educational institutions, for example portfolios, Student Information Systems and Content repositories. Generally, Moodle does not try to re-invent these areas of functionality. Instead, it tries to be the best LMS possible, and then interoperates gracefully with other systems that provide the other areas of functionality.

Canvas Instructure is an online learning platform that allows students to integrate their accounts with social media sites such as Twitter and Facebook. It is one of the top online learning platforms available. Best of all, students and instructors acting individually (not subscribing as an entire school) can use the program for free. In structure, Inc. is an educational technology company founded in 2008 by two graduate students, Brian Whitmer and Devlin Daley[Sara, 2010]. In structure developed Canvas, a Web Based learning management system, and Canvas Network, a massive open online course (MOOC) platform. It is available in more than 30 languages. Before officially launching the Canvas, the Utah based company tested the Canvas LMS at several local schools including Utah State University and Brigham Young University. It is being used by more than 18 million higher education, K-12 and workforce users worldwide. In 2011, Canvas launched their iOS app, and in 2013, their Android app, enabling mobile access to the Canvas learning platform. Both the apps comprised two components Canvas Student and Canvas Teacher, separating features for students and instructors. Canvas provides a number of features like navigation, communication, course features and setting notification preferences. In navigation it contains The Dashboard also shows courses and groups, recent activity,

to-do items, upcoming assignments, and recent feedback, Global Navigation which is the menu that appears on every Canvas page consists of navigation links that direct users to frequently-used features in Canvas and the Calendar which is a communication tool that shows users all events and assignments in their courses and groups.

D. REVIEW OF RELATED LITERATURE

Nikou and Maslov (2021) had examined the critical factors for the intention to participate in e-learning during COVID-19. The Data were collected by surveying 131 university students and a structural equation modeling technique using PLS-SEM was employed to analyze the data. The results showed that the COVID-19 related factors such as perceived challenges and COVID-19 awareness not only directly impact students. However, the results showed that the educational institution's preparedness does not directly impact the intention of students to participate in e-learning during COVID-19. The results also showed that the gender and length of the use of e-learning systems impacted students using e-learning.

Irzawati (2021) investigated the students' perspectives towards the utilization of digital platforms in online learning. Learning Management System, WhatsApp, and Google Meet are the digital platforms used in the online learning of this research. The method employed descriptive research . A sample size of 79 students from three different faculties of a private university in Palembang that were selected through purposive sampling technique. The data were collected by administering questionnaires and interviews to the participants via Google Form and WhatsApp Chat. The data analysis procedures consist of Collecting, classifying, and describing were used by the researcher. The results revealed that the students perceived the use of the digital platforms in learning positively. The students believed that learning through utilizing the digital platforms had brought positive impacts that lead to the enhancement of their English achievement. Moreover, The study using multi digital platforms provided an opportunity and more dynamic learning atmosphere .

Gurban and Almogren (2022) investigated the effect of perceived interaction, educational materials, playfulness, perceived enjoyment, self-efficacy, perceived usefulness, and perceived ease of use on students' attitudes toward and intentions to

use e-learning in Saudi Arabia higher educational institution during the COVID-19 pandemic, as well as the indirect impact of student satisfaction with their actual use of e-learning .The method employed for the study was online survey .The study's participants were e-learning users from a Government University in Saudi Arabia. Gender, age, educational level, and specialism were used to classify demographic characteristics. The result showed that Online learning, according to the students, is a flexible and effective form of teaching and learning since it provides for easier management and availability of distant learning while consuming fewer time and resources. Regardless of time restrictions, learners may easily obtain instructional content.

Kovacs (2022) investigated the Learning management system in Transylvanian Higher Education Institutions. The technique used for the purpose of data Collection was in depth interviews from the students enrolled in the popular university of Transylvanian . help the learning process by providing a central location to access material online and to develop content. The study revealed that the investigator also analyzed how learning content was poured to the students. The results shows that the Canvas was not so widely used by the teachers as compared to google meet and Teams. The faculty of Computer Science and Mathematics preferred Canvas as one of the Lms. Moreover the faculties were using a Lms for the administrative purpose prior to the Covid arena.

Mustapha (2023) reviewed Students Motivation and Effective Use of Self-regulated Learning on Learning Management System Moodle Environment in Higher Learning Institution in Nigeria. The study employed a descriptive survey method and a questionnaire tool was used for the purpose of data collection. The sample of the study were the undergraduate students enrolled in Higher Learning institute in Nigeria. Ninety-six undergraduates (48 in the experimental and 48 in the control group) took part in this quasi-experimental study. The data gathered through the Questionnaire were analyzed using descriptive statistics. The data was analyzed through an independent sample using t-test. The result revealed that utilizing Moodle as a learning management system enhances undergraduates' ability to learn independently and motivates them to work hard. Moreover, the student's perception of the Learning Management System was positive.

Babalola (2023) investigated the undergraduate level of acceptance and utilization of Moodle platform for learning at the University of Ilorin. The study adopted descriptive research of the survey type. The technique used for the present study was random sampling . A total of two hundred (200) undergraduates formed the sample size for the study. The Questionnaire tool was used to obtain the data .The data obtained was subjected to both descriptive and inferential statistics. Frequency counts and means scores were used to answer the research questions, ANOVA and t-test were used to test hypothesis one and two respectively. The findings revealed that the Undergraduates' level of acceptance of Moodle platform for learning is negative and there was a significant difference between male and female Undergraduates level of utilization of Moodle platform for learning . The study concluded that the Moodle platform with so many existing features and future potential uses is not broadly utilized in many universities. Moreover, it suggested that Universities should implement a platform that supports online learning activities to engage students virtually and dredge further into the issues faced by the students in e- learning activities.

Malaveer (2023) investigated the relationship between the use of the Canvas platform and significant learning in university level students from Ugel 15. A quantitative approach was used. The sample was census and consisted of 75 college level students from 3 educational institutions belonging to UGEL 15. The technique applied was the survey, The instruments were two questionnaires. The results obtained showed that the variables studied have a direct and significant correlation, Likewise, the results referred to interactivity, virtual resources, flexibility and the formative action of the Canvas platform showed that there is a positive and significant relationship with meaningful learning .Furthermore , it established the usefulness of the Canvas Instructure.

E. NEED AND SIGNIFICANCE OF THE STUDY

In higher education institutions, the adoption of e-learning courses has become increasingly imperative to address the evolving needs of students. These courses offer a range of benefits that cater to the diverse and dynamic nature of modern education. Overall, eLearning courses in higher education institutions fulfill the need for flexible,

personalized, globally-connected, and technologically adept learning experiences, empowering students to succeed in an ever-evolving educational landscape.

Although the literature regarding e learning and using e learning as one of the instruments of Learning is expanding, studies related to the quality of online education as well as the usage of various online platforms are limited. Among those examined, few researchers have examined the quality of online education from the students' perspective. Therefore, there is a need to investigate students' perceptions towards the quality of E- learning as well as the other Learning management tools. The purpose of this study was to examine the usage of existing online education courses that utilize the Internet as the primary instructional delivery method. The findings of this study may contribute to the literature of E- Learning courses in terms of LMS. It will lessen the paper works of the students and teachers of the researchers. This has set a basis about e-learning for future researchers. The present study is one step in this direction as insight on usage will be a significant contribution in this field. The results should hopefully enable institutions offering E - learning to evaluate their programme based on the findings and the recommendations in the present study .Results from present study hold great use for teachers by offering a convenient means to enhance subject knowledge, teaching techniques, and technological integration. They foster ongoing learning, collaboration, and reflective teaching, empowering educators to provide high-quality and adaptive education to their students in an ever-changing educational landscape. eLearning platforms are also important for institutions and it lies in their ability to provide flexibility, scalability, data-driven insights, technological innovation, and collaborative opportunities. By incorporating eLearning, institutions can enhance their educational offerings, attract a wider student base, and stay adaptive in a rapidly changing educational landscape. Insight for eLearning platforms holds significant importance for students by offering flexibility, promoting digital literacy, enabling personalized learning, fostering collaboration, and preparing them for the demands of modern education and employment. This approach equips students with the skills and mindset necessary to excel in an interconnected, technology-driven world. Results on eLearning platform may be significant for LMS experts by enhancing their expertise, enabling effective design and implementation of eLearning platforms, fostering collaboration, and capitalizing on growing career opportunities. These professionals play a crucial role in

shaping the future of digital education, making their continuous learning and proficiency with eLearning technologies highly relevant and impactful. It will be considered to be the first study in Jammu District. The findings of the study may prove beneficial for students, teachers, and for educational institutions.

F. STATEMENT OF THE PROBLEM

The problem proposed by the investigator reads as under:

"USAGE OF MOODLE AND CANVAS AS A PLATFORM FOR E-LEARNING COURSES BY STUDENTS ENROLLED IN HIGHER EDUCATION INSTITUTIONS"

G. OPERATIONAL DEFINITIONS OF THE KEY TERMS USED

The variables have been operationally defined as under:

E- Learning

In the present study, e-learning is the learning which is taking place either through Moodle or Canvas Instructure platforms or any other electronic learning management system (ELMS) used by the students enrolled in higher education institutions (HEI's) selected for the study.

Moodle

In the present study, Modular Object-Oriented Dynamic Learning Environment (Moodle) is an online, open-source learning platform used for running an institutional LMS for learning purposes by the students enrolled in higher education institutions.

Canvas

Canvas Instructure is another online platform used for learning purposes by the students enrolled in higher education institutions.

Higher Education Institutions (HEIs)

In the present study, the Higher Education Institutions refers to the institutions imparting instructions at graduate and postgraduate levels and are affiliated to the University of Jammu and Cluster University of Jammu.

Usage

In the context provided, Usage refers to the extent or manner in which students at higher education institutions (HEIs) employ online platforms on their devices, such as laptops and mobile phones. It encompasses how frequently and in what ways these students interact with online platforms for various educational purposes.

H. OBJECTIVES OF THE STUDY

The following are the research objectives for the present study :-

1. To study the status of enrollment of higher education institution students in massive open online courses (MOOCs) through e - Learning platforms.
2. To study the e-Learning habits of the students in terms of readiness towards e-learning platforms for pursuing their higher education.
3. To study the differences in usage of e-Learning platforms by the students with respect to their gender, age, class, stream, institution, and residential background.
4. To study the preferences of the higher education institution students towards using Moodle and Canvas as MOOC Platforms.
5. To compare the level of usage of Moodle and Canvas as platforms for e-learning among students pursuing higher education.

I. HYPOTHESES OF THE STUDY

The following are the hypothesis for the present study:-

1. There is no difference in usage of e-Learning platforms by the students with respect to their gender.

2. There is no difference in usage of e-Learning platforms by the students with respect to their age.

3. There is no difference in usage of e-Learning platforms by the students with respect to their class.

4. There is no difference in usage of e-Learning platforms by the students with respect to their stream.

5. There is no difference in usage of e-Learning platforms by the students with respect to their institution.

6. There is no difference in usage of e-Learning platforms by the students with respect to their residential background.

7. There is no difference in usage of e-Learning platforms by the students with respect to their department.

J. DELIMITATIONS OF THE STUDY

Following were the delimitations of present study: -

1. The present study deals with the 200 students enrolled in the higher Educational Institutions in Jammu district only.

2. The present study is delimited to the survey on usage of Moodle and Canvas as a platform for e-learning courses by the students enrolled in the higher education institutions.

3. The study was restricted to those students who were aware of Moodle and Canvas platform in achieving objective 5.

4. The study has been restricted to the measurement of variables through;

- a self-prepared QUeLP *(Usage of e-learning Platforms)Scale* For assessing level of usage of e-learning platforms by the student enrolled in higher educational institutions.

K. METHOD USED

Descriptive survey method was used for the present study.

L. POPULATION OF THE STUDY

Population refers to any collection of specified groups of human or non- human entities such as objects, educational institutions, time units and geographical areas. The population of the present study consisted of all the students enrolled in government and private colleges established in Jammu District and affiliated to University of Jammu.

M. SAMPLE AND SAMPLING TECHNIQUES

For the present study 200 Sample was selected from various secondary schools of Jammu district by using Simple Random Sampling technique. The students were further classified into six distinct categories- Gender (Male and Female), Type of Institutions (Government and Private) and Residential Background (Urban and Rural), Stream (Science, Commerce, Arts), Age (18-20, 21-23, 24+) , and Department (Undergraduate and Postgraduate)

N. VARIABLES OF THE STUDY

The following variables were studied in the present research:

Independent Variables

Independent Variables are those which may vary or change from person to person or situation .In other words , It is a variable that stands alone and isn't changed by the other variables you are trying to measure. The following are the independent variable of the present study:-

I. Type of Institutions (Government and Private)

II. Gender (Male and Female)

III. Residential Background (Rural and Urban)

IV. Age (18-20, 21-23 and above 24+)

V. Class (B.Ed., M.Ed., B.Sc., B.Com., BA.)

VI. Department (UG and PG)

VII. Stream(Science, Humanities & Commerce)

Dependent variables

Dependent variable refers to the variable that depends on other factors. The following are the dependent variables of the present study:-

- Usage of Moodle and Canvas
- e-learning

O. SELECTION AND DESCRIPTION OF TOOLS

The present study includes two dependent variables namely Usage of Moodle and Canvas , e-learning. The investigator referred to so many available tools for the purpose of the accomplishment of objectives of the study but as the study is recent in nature and tool was not available. So, the investigator used a self-devised tool of research.

Self-develop tool namely **Questionnaire on Usage of e-learning Platforms (QUeLP)** was used for knowing the level of usage of e-learning platforms among students enrolled in higher education institutions.

Construction of QUeLP

A systematic procedure was adopted by the investigator for the development of the tool. The procedure had following steps namely planning, preparation of preliminary draft, individual try-out, refinement, and group try out, validity and reliability of the tool and preparation of final version respectively. (Chadda,1996)

Planning

During planning, the structure of the scale in relation to variables was discussed. A blueprint was developed for the tool and structure of the tool was also taken into account. The tool was divided into two sections- First section includes - instruction

for tool and introductory part, information about personal detail items. Second section includes -items related to e-Learning Platforms, usage of Moodle and Canvas as e-Learning Platforms.

Preparation of Preliminary Draft

The investigator developed the initial draft and the items related to e-learning platforms. The items were written and computerized. The items consisted in the scale being simple and concise to avoid vagueness. The tool has been described below.

Questionnaire on Usage of e-learning Platforms (QUeLP)

The preliminary draft of the tool "QUeLP"

It consisted of three parts (i)Usage of e-learning platforms (ii) Usage of Moodle (iii) Usage of Canvas. Each part has 10 statements. There were a total of thirty items in the scale. These items were related to usage of ELMS. For each item 5 responses were given 'never', 'sometime' and 'always' 'rarely'.

Individual and group try out of tool

The preliminary draft of the tool was printed and given to one student of post graduate level for checking the clarity of the statements, appropriateness of the language and the pattern of responses against each statement given by her. After that the tool was administered on 10 students for group tryouts. The respondents were instructed to respond to all the statements and choose one option against each statement. They were also given an assurance that their responses would be used for research purposes only and they should be kept confidential . Time limit was set for giving responses (30-35 minutes), and the respondents were scored as per the options given by them. On the basis of their suggestions and observation by the investigator and under the guidance of Expert Supervisor, the research tool was refined.

Refinement of the tool

In the light of response given by the University level students during the individual and group try out, refinement in research tool was carried out. On the basis of suggestions provided by students, peers and experts, statements were refined and

further modifications with regard to grammar, language, simplicity, conciseness ,scale etc. were embodied in this tool.

Scoring of the QUeLP Scale

Likert Scale was also used for the present study to assess the usage pattern of e-learning platforms.

Final Draft of the Tool

Final draft of the tool was developed. The QUeLP scale consists of 36 items and was divided into 4 Sections Namely-Information about the Participant and MOOCs enrollment, Readiness for e-learning, Usage of Moodle Platform, Usage of Canvas Platform. The tool was available in the printed form given in Appendix A and also available in Google form.

Validity and Reliability of the Tool

The QUeLP scale was given to experts in education and technology. The valuable suggestions were provided by the subject and technology expert that were taken into consideration to set the pattern of items for the present study. Hence, the Face and Content Validity was established by the language and subject experts. The investigator also established the reliability of the QUeLP scale, for that data was collected from a sample of 200 Higher Education level students. There were 35 items in the QUeLP Scale. The Reliability of QUeLP Scale 0.975 was computed by using SPSS .

P. DATA COLLECTION

The researcher personally visited the colleges to gather data. Initially, they met with the institution's head, presenting a permission letter from their college and explaining the data collection purpose. The researcher reassured the colleges about the process's transparency and the confidentiality of the information.

The survey tool was initially given to the head of the department. Afterward, the investigator was asked to wait for a while. The head of the department scheduled a time for data collection, which was referred to the department as a whole.

At the appointed time, the investigator visited the classroom and explained the study's purpose to the students. Clear instructions for completing the questionnaire were provided. The students were assured that their responses would be kept confidential, encouraging them to answer the questions honestly and sincerely.

In this manner, the survey was conducted in the selected colleges, and the investigator successfully collected the data.

Q. STATISTICAL TECHNIQUES EMPLOYED

1. Percentage analysis was used to calculate -

    - Status of enrollment of students in MOOCs .
    - E-learning habits in terms of readiness towards using e-learning platforms for pursuing their higher education
    - Preference of students for Moodle and Canvas as e-learning platforms.

2. t-test was used to study the difference between –

    - usage of e-learning platforms with respect to residential background .
    - usage of e-learning platforms with respect to gender.
    - usage of e-learning platforms with respect to the department.

3. Mean analysis to compare the level of usage of Moodle and Canvas platforms.

4. ANOVA was used to study the-

    - Difference in usage of e-learning platforms with respect to different age groups.
    - Difference in usage of e-learning platforms with respect to different classes.
    - Difference in usage of e-learning platforms with respect to different streams pursued by the students.
    - Difference in usage of e-learning platforms with respect to different institutions

R. MAJOR FINDINGS OF THE STUDY

Research Objective 1

To study the status of enrollment of higher education institution students in Massive Open Online Courses (MOOCs) through e-learning platforms.

In order to study the status of enrollment of higher education institution students in Massive Open Online Courses (MOOCs) through e-learning platforms, the percentage and frequency had been calculated. The result shows that 60(30%) out of 200 students have enrolled in Massive Open Online Courses and 140 (70%) have not enrolled in MOOCs platforms.

The study's findings on group wise enrollment in Massive Open Online Courses (MOOCs) revealed significant differences based on various factors. Regarding gender, 82.8% of male students had not enrolled in MOOCs, while 17.2% had, whereas 64.8% of female students had not enrolled, with 35.2% having done so. In terms of the study stream, all Commerce students had not opted for MOOCs, while 61.1% of Humanities students had, and 38.9% had not. In Science, 97.3% hadn't enrolled, with 2.7% having done so. Regarding class type, 33.3% of M.Ed. students hadn't enrolled, while 66.7% had, and 90% of B.Ed. students had enrolled, whereas 10% hadn't. All B.Com. students had not opted for MOOCs, and 53.8% of B.A. students had not, while 46.2% had. In terms of residential area, 66.9% in urban areas hadn't opted for MOOCs, with 33.1% having done so, while 76.1% in rural areas hadn't, and 23.9% had. Regarding age groups, 84% of students aged 16-20 had not enrolled in MOOCs, while 16% had, 22.7% of students aged 21-23 had not enrolled, and 77.3% had, and 32.1% of students aged 24+ hadn't enrolled, while 67.9% had. Regarding institution type, 95.5% in GGM Sc hadn't opted for MOOCs, while 4.5% had, 100% in MAM hadn't opted, 85.3% in MIER had opted, while 14.7% hadn't, 100% in PSPS GD hadn't opted, and 100% in SPMR hadn't opted for MOOCs.

Research Objective 2

To study the e-learning habits of the student in terms of readiness through e-learning platforms for pursuing their higher education.

In order to e-learning habits of the students in terms of readiness through e-learning platforms , the percentage and frequency had been calculated.

From the results, it has been found that:

1. High Usage of Digital Devices and the Internet: A significant portion of the surveyed students (73%) reported using smartphones and computers in their learning process, with 73.5% using the internet for homework and studies. This indicates a high level of digital device and internet usage among higher education students, demonstrating their readiness for e-learning.

2. Communication and Collaboration: Over half of the students (57.5%) reported frequently communicating through emails and chat groups, while 26% actively shared documents and presentations online. This highlights their inclination to engage in online communication and collaborative activities, indicating readiness for virtual interactions.

3. Assessment and Evaluation: A substantial percentage (45.5%) of students reported frequently taking e-exams or ICT-based quizzes, indicating their willingness to participate in online assessments. This suggests that students are open to online evaluation methods, which is essential for e-learning readiness.

4. Participation in Online Activities: About 32% of students expressed active participation in online extra/co-curricular activities, emphasizing their willingness to engage in various online activities beyond academics. This broader engagement signifies a readiness for holistic e-learning experiences.

5. Assignment Submission and Content Creation: The majority of students (59.5%) frequently submit assignments online, and 46% are actively involved in creating online notes and projects. This shows their readiness to use digital tools for content creation and submission, a crucial aspect of e-learning.

6. Online Form Filling and Accessing Documents: A significant portion of students (59%) reported frequently making or filling online forms and attempting quizzes, while 65% accessed documents and checked results online. This indicates their

comfort with online administrative tasks and accessing digital resources, reflecting e-learning readiness.

Research Objective 3

To study the differences in usage of e- learning platforms by the students pursuing higher education with respect to their gender, age, class, stream, institution ,residential background, and department.

The sample for the study on usage of e-learning platforms consisted of 200 students, which was 15% of the total population of 1,341 students. The mean usage score for female students (N=142) was 36.20 (SD=8.152, SEM=.684) compared to 31.03 (SD=11.359, SEM=1.491) for male students (N=58). The t-test found this gender difference to be significant at the 0.01 level (t=3.61, df =198). For age, students 24+ had the highest mean score (M=38.07, N=27) followed by 21-23 (M=35.23, N=104) and 18-20 (M=35.23, N=69). The ANOVA test showed a significant difference between age groups (F=7.590, p=0.01), specifically between 18-20 and 24+ based on post-hoc analysis. Across academic classes, BA students had the highest mean usage (M=43.20, N=25) and B.Com the lowest (M=34.56, N=45). The ANOVA found significant differences between several classes at the 0.05 level (F=9.720, p=0.01). No significant difference was found between streams (F=0.894, p>0.05). For institutions, M.A.M College had the highest usage (M=45.17, N=42) versus MIER College (M=31.33, N=30) with the lowest, and significant differences were found between specific institutions (F=27.550, p=0.01). No significant rural-urban difference was found (t=0.83, p>0.05). Finally, postgraduates (M=41.92, N=25) used platforms significantly more than undergraduates (M=32.81, N=175), with t=3.80, p=0.01, df=198.

From the results , it has been found that:

1. The investigator's study revealed a significant difference in the usage of e-learning platforms based on gender. Female students tended to use e-learning platforms more extensively compared to their male counterparts. This finding led to the rejection of the hypothesis that there would be no significant differences in the usage of e-learning platforms with respect to gender.

2. The investigation found a significant difference in e-learning platform usage across various age groups among higher education students. Younger and older students exhibited distinct patterns of utilizing e-learning platforms. Consequently, the initial hypothesis suggesting no significant differences in usage concerning age groups was rejected.

3. The investigator found significant disparities in e-learning platform utilization among students in different academic classes, such as M.Ed., B.Ed., BA, B.Sc., and B.Com. This suggests that the class of students impacts their e-learning platform preferences and behaviors. As a result, the hypothesis proposing no significant differences in usage among different classes was rejected.

4. In contrast to the previous hypotheses, the study did not identify a significant difference in the usage of e-learning platforms based on students' streams of study. This indicates that the choice of academic stream does not significantly influence e-learning platform adoption.

5. The investigation demonstrated a noteworthy difference in the usage of e-learning platforms among students from different institutions. Each institution exhibited distinct e-learning platform usage patterns. Hence, the hypothesis suggesting no significant differences in usage across institutions was rejected.

6. The study found no significant difference in e-learning platform usage concerning students' residential backgrounds. While urban students tended to use e-learning platforms more than their rural counterparts, this difference did not reach statistical significance. Consequently, the hypothesis claiming no significant differences in usage based on residential background was accepted.

7. The investigator discovered a significant difference in e-learning platform usage with respect to students' departments, distinguishing between postgraduate and undergraduate students. Postgraduate students were found to use e-learning platforms more extensively than undergraduate students. Thus, the hypothesis initially suggesting no significant differences in usage by department was rejected.

Research Objective 4

To study the preference of higher education students towards using Moodle and Canvas as MOOCs platforms.

From the results, it has been found that:

- 62 students have preferred Moodle or Canvas as e-learning platforms which accounts for 31% of the sample.
- 138 students have not preferred Moodle or Canvas as e-learning platforms which accounts for 69% of the sample.

Research Objective 5

To compare the level of usage of Moodle and Canvas as platforms for e- learning among the students pursuing higher education.

In the context of the research objective, A key finding of this study is the limitation related to sample size and selection biases. Out of the initial 200 participants, only 62 were familiar with the e-learning platforms Moodle and Canvas. The responses and findings discussed in this objective are based solely on this subset of 62 participants who had prior awareness of these platforms. The average score for Moodle-related statements was 3.96, indicating a moderate level of agreement among students, suggesting a moderate level of satisfaction and usage of Moodle. In contrast, the average score for Canvas-related statements was 2.52, showing that students were somewhat neutral in their agreement with Canvas-related statements. This suggests a relatively lower level of satisfaction and usage of Canvas among the participants in comparison to Moodle. In summary, among the 62 participants familiar with both platforms, Moodle was found to be more favorably viewed and utilized for e-learning in this study.These findings suggest that Moodle is perceived more positively and used more extensively than Canvas among the participants who were aware of both platforms in the study.

S. DISCUSSION AND CONCLUSIONS

In the present study, the investigator sought to determine the usage of e- learning platforms by the students enrolled in higher education institutions . Descriptive survey method has been used. Self-devised *QUeLP Scale* was used, Questionnaire was employed to collect data from a sample of 200 higher education institution students, which was selected by using simple random sampling technique. After that analysis and interpretation was done by using Percentage Analysis, Mean analysis, t-test and Analysis of Variance (ANOVA).

1. 30% are enrolled in moocs whereas 70 percent were not enrolled in such platforms. In the light above, finding our hypothesis No.1 stating that there is no difference in the status of enrollment of the higher education students in moocs is rejected.

2. 54% of students showed readiness for e-learning platforms, while 36% use eLearning platforms occasionally. However, 20% of students show uncertainty regarding readiness for e-learning. In the light of above finding hypothesis No. 5 stating that there is no difference in the e-learning habits of the students pursuing higher education is rejected.

3. Females use more e-learning platforms as compared to male students. In the light of the above finding hypothesis No. 4 is rejected .While there is no significant difference in e-learning platform usage between urban and rural students. In the light of above finding hypothesis No. 2 stating that there is no significant difference in relation to gender is accepted.

4. There are significant differences with respect to age groups. The group of students aged 16-20 is significantly different in terms of e-learning platform usage compared to both the 21-23 and 24+ age groups. In the light of above finding hypothesis No. 3 stating that there is no significant difference in usage of e-learning platforms with respect to age group is rejected.

5. Significant differences were found in awareness levels among different age groups regarding Moodle and Canvas as mooc platforms. Only 31% were aware about the platform with respect to gender . However, 32% were aware of

Moodle and canvas platforms with respect to age. In the light of above finding hypothesis No. 6 stating that there is no significant difference in awareness level towards Moodle and canvas as moocs platforms is rejected.

T. EDUCATIONAL IMPLICATIONS

"Any research is only valuable if it offers important lessons for education. Nowadays, many researchers are exploring the impact of technology, just like the National Education Policy of 2020 also highlights. In this study, investigator looked at how students in higher education use e-learning platforms. Education is important for the social and economic development of the country. This is the age of Information dominated by digital technology. E-learning platforms play an important role in today's world of technology.

Based on the findings, investigator suggest some practical insights for students, teachers, Institutions, and policymakers."

EDUCATIONAL IMPLICATIONS FOR STUDENTS

The following are the educational implications of the study for the students:-

1. The results showed that the students have not enrolled themselves in MOOCs . So, the students should actively explore the Massive Open Online Courses (MOOCs) as they can be a valuable supplement to traditional education.

2. Students should develop time in developing digital literacy and proficiency. This includes becoming comfortable with using digital devices, internet facilities and other online tools.

3. Students should focus on improving their communication and collaboration skills .This is crucial for effective engagement in digital learning platforms.

4. Students should be open to online learning and assessment. They should adapt the pattern of learning.

5. Students should engage in a variety of online learning beyond academics. This can include co-curricular activities, online projects for fostering overall learning of the students in higher education institutions.

EDUCATIONAL IMPLICATIONS FOR TEACHERS

The following are the educational implications of the study for the teachers:-

1. Educators can support students in enrolling in MOOCs by providing guidance and resources, facilitating a more diverse learning experience.

2. Offer workshops and training on digital proficiency to help students maximize the benefits of e-learning.

3. Teachers can provide guidance on effective online communication and collaboration, ensuring students can interact productively in digital spaces.

4. Utilize a variety of online assessment methods to accommodate students' willingness to engage in e-exams and quizzes.

5. Encourage students to participate in a range of online activities, both academic and non-academic, to foster holistic development.

EDUCATIONAL IMPLICATIONS FOR EDUCATIONAL INSTITUTIONS

The following are the educational implications of the study for the educational institutions:-

1. A significant percentage of students are actively using smartphones, the internet, and various online tools. Educational institutions should consider enhancing digital literacy programs to help students make the most of eLearning platforms.

2. Recognizing the gender-based differences in eLearning platform usage, educational institutions can provide support to ensure that both male and female students can benefit equally from online learning.

3. There may not be a significant difference in usage between urban and rural students, institutions should still ensure equal access to eLearning resources for students from different residential backgrounds.

4. There are significant differences in awareness levels regarding Moodle and Canvas among different age groups, institutions can focus on promoting these

platforms as Massive Open Online Courses (MOOCs) and provide clear guidance on their benefits and usage.

5. Recognizing the readiness of a substantial portion of students for eLearning, institutions can offer a mix of traditional and online courses. This allows students to choose the learning mode that suits their preferences and needs, ultimately enhancing the overall educational experience.

6. Institutions should promote inclusivity in MOOC enrollment, ensuring that students from all backgrounds have access to these resources.

7. Institutions should allocate resources for digital infrastructure and support services to accommodate the high usage of digital devices and the internet among students.

8. Institutions should facilitate collaborative online platforms for students to enhance their communication and collaboration skills, aiding in their readiness for e-learning.

9. Institutions should invest in online evaluation tools and methods to adapt to students' willingness to participate in e-exams and quizzes.

10. Institutions should encourage a wide range of online activities beyond academics to create a vibrant e-learning environment.

U. SUGGESTIONS FOR FURTHER RESEARCH

1. A sample of 200 students from different Colleges of education from Jammu was taken in the present study. Similarly, study can be conducted on a larger sample to study the use of e-learning courses at other levels and other professional courses.

2. The present study cannot be called final and comprehensive; more work can be done on different samples of different age groups.

3. Similar study can be conducted on students studying at school level.

4. A similar study may be undertaken in other districts of Jammu and Kashmir.

5. Further study may also be conducted on students belonging to different areas. Similar studies can be conducted on people in different locality and economic backgrounds.

6. The study is purely based on students; it can be conducted on teachers , educators and other staff members of the institutions.

7. The study focuses on Moodle and Canvas platform. Similar studies can be conducted on other e-learning platforms like Swayam, Blackboard, google classroom etc.

8. Experimental study can also be conducted on government and private school students to compare their usage of e-learning platforms, as the present study was of descriptive nature.

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APPENDIX

Questionnaire on Usage of e-Learning Platforms (QUeLP)

Dear Participants,

I am pursuing my Master's in Education (M.Ed.) at MIER College of Education, Jammu. I am collecting data from higher and senior secondary students as part of my Dissertation Work. I have a small set of questions for your response. Your information will remain strictly confidential and will only be used for research purposes. Your kind help will be acknowledged.

A. Information of the Participant

Name: _____.

Stream: Science ( ) Humanities ( ) Commerce ( )

Institutions:_____

Class: _____

Res Residential Area: Rural☐ Urban☐

Age (in Years): _____.

Department:_____

Gender: Male☐ Female☐ Others☐

Are you enrolled / have completed any Massive Open Online Courses (MOOC) through SWAYAM or any other portal? Yes ☐ No ☐

B. Readiness for e - Learning

e-Learning or online learning is the learning which is enabled electronically by using various online platforms (Moodle, Canvas, Swayam, Coursera etc.). There are 10 statements about the usage of these platforms. Read each statement and tick mark one option for each statement. Always (Every Hour), Often (Every Day), Sometimes (Every Week), Rarely (Every Month), and Never (Not Used)

Sr.	How often do you do the following ?	Always	Often	Sometimes	Rarely	Never
1	Use smartphones/computers in the learning process					
2	Use internet for homework and studies					

3	Communicate through emails/ chats groups					
4	Taking e-exams or ICT based quizzes					
5	Share documents, PowerPoint presentations through meetings					
6	Participate in online extra/co-curricular activities					
7	Submit assignments etc.					
8	Creating online notes, projects (making videos)					
9	Make or Fill Online forms/ attempt quizzes					
10	Get documents online or check results online					

Have you used Moodle / Canvas platform for Massive Open Online Courses (MOOC) Yes ☐ No ☐

- **If Yes , then Fill the Sections C, D or Both**
- **If No , then Leave the Section C and D blank.**

C. Usage of Moodle / Canvas as e - Learning platform

Canvas is web - based learning management system or LMS for MOOCs

There are 10 statements each about the usage of Moodle and Canvas respectively as a platform for e-learning courses. Read each statement carefully and write the rating on a five point scale as indicated below.

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)

	Section C		Section D	
Sr.	**Statements (MOODLE PLATFORM)**	**Score**	**Statements (CANVAS PLATFORM)**	**Score**

1	Moodle= Modular Object Oriented Dynamic Learning Environment is a website for ELMS		Canvas Instructure is a website for ELMS	
2	I have enrolled myself		I have enrolled myself	
3	I have watched video lectures		I have watched video lectures	
4	I have submitted assignments		I have submitted assignments	
5	I have contributed / participated in discussion forum		I have contributed / participated in discussion forum	
6	I have attended online meetings		I have attended online meetings	
7	I have attempted quizzes		I have attempted quizzes	
8	I have received certificates/ badges		I have received certificates/ badges	
9	I enjoy using Moodle platform		I enjoy using CANVAS INSTRUCTURE	
10	I have used Moodle (SWAYAM , COURSERA) through Mobile App/ Web		I have used CANVAS through Mobile App / Web	

1. Are you planning to participate in MOOC using following platform ? (Tick your choice otherwise leave it blank)

MOODLE ☐, CANVAS ☐, SWAYAM ☐,

COURSERA ☐, BLACK BOARD ☐, ANY OTHER _____.

2. Have you created any Online Course? Yes ☐ No ☐

3. Would you like to create any online course? Yes ☐ No ☐

Thank You very much for filling in the information!

CHAPTER-I

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RELATED LITERATURE

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