Enhancing Inclusive Education through Learning Management System (LMS): Prospects, Challenges and Perspective at the School Level

Priyanka Shukla
Senior Research Fellow
and
Dr. Yogendra Pandey
Associate Professor

Faculty of Education (K), Banaras Hindu University, Varanasi
Email: priyankashukla67@gmail.com; ypandey@bhu.ac.in

Abstract: *The integration of ICT tools, particularly learning management systems (LMS), has transformed traditional teaching and learning practices. They are recognized as being important resources for the educational system. The value of inclusive education, which aims to give all students equal access to learning opportunities regardless of their various origins and skills, is extremely high in today's educational approaches. Nowadays, many higher education institutions are now provided with Learning Management Systems (LMS) to deliver comprehensive online learning solutions and to utilize its features and capabilities to improve learning practices. As a result of the rapid advancement of technology, Learning Management Systems (LMS) have evolved into flexible tools capable of improving efforts at inclusive education. This study investigates the potential and challenges of utilizing LMS to improve inclusive education and provides perspectives from school-based teachers. By examining the perspectives of teachers, this study reveals the practical consequences, awareness, accessibility, challenges, and issues, and associated with installing LMS in inclusive classrooms. The main aim of the study of focusing more closely on the use of LMS for students with special needs is to put equality, diversity, and inclusive education into practice. The current study intends to develop an understanding of the LMS from the perspective of teachers, explore the use of its functionalities, and identify the barriers that may influence LMS utilization at the school level in the Varanasi district.*

Keywords: *Inclusive Education, Learning Management System (LMS), School Education.*

1. Introduction

Inclusion or integration is an essential part of educational equality. Demands for inclusive education have grown, resulting in significant changes to schooling and education. Students with special needs attend school alongside their peers in the community; therefore, mainstream schools must adjust to accommodate a varied population of students with a variety of requirements (Miracle & Momoh, 2023). Approaches to integrating children and young people into mainstream classrooms, as well as identifying and recognizing special educational needs, which is an important component of school work. The organization of learning environments is being challenged by the well-being and actualization of developmental and learning potential within a diverse group of students (Starcic, 2010). The global pandemic of the Coronavirus disease (COVID-19) has significantly disrupted many sectors of each country. Schools have been closed where traditional physical interactions supplement teachers' pedagogies to assure learning (Medina, 2021). As a result, the Department of Educational Ministry used its Alternative Delivery Mode (ADM) learning modules to support the continuity of learning for

Session 2020–2021 because of the risk factors associated with face-to-face interaction. Additionally, flexible learning was pushed as the primary form of instruction. As per UNESCO Report 2020 given by Haung et al. (2020). Flexible learning provides rich learning opportunities across multiple dimensions of study, applies a learner-centered constructivist approach characterized by a shift from the teacher taking learning responsibilities to the learner with special needs taking these responsibilities, and necessitates learners becoming more skilled at self-regulation in terms of goal setting, self-monitoring, self-instruction, and self-reinforcement. Teachers promote active learning in a flexible learning environment by generating engaging effective situations (Medina, 2021). Learning Management Systems (LMS) provide an online classroom for teachers and students to reinforce learning processes for all diverse students at the same time. Learning Management Systems (LMS) support teachers and students in the learning process in online classroom environments. A typical LMS promotes an inclusive learning environment for academic development by incorporating frameworks that enable online collaborative groupings, professional training, discussions, and communication with other LMS users (Dias, 2014; Jung, 2019 & Bradley, 2020). LMS designs incorporate a variety of media and communication methods and encourage learner choice (Kehrwald & Parker, 2019).

Similarly, internet-based Learning Management Systems (LMSs) have become a popular technology for enabling distance, face-to-face, and hybrid/blended educational processes. In the educational context, e-learning platforms are also known as Learning Management Systems (LMSs), which are "internet-based, software allowing teachers to manage materials distribution, assignments, communications, and other aspects of instructions for their courses" (Medina, 2021). And the other hand, Hunaiyyan, 2020 defines an LMS as a self-contained webpage with embedded instructional tools that allow teachers to arrange academic content and engage students in their studies. However, in the case of inclusive education through LMS, teachers can play a significant role in managing all students at the same time with equal educational needs. Similarly, Fathema et al. (2015) stated that LMS provides a virtual way for students and teachers to communicate faster, as well as speed and effectiveness in educational procedures. Learning Management Systems (LMSs) enhance teaching and learning by providing tools and services such as course administration tools, online group chats and discussions, documents (lecture materials, homework, and assignments, for example), power points, video clips uploading, grading, and course evaluations. Since then, LMSs have evolved in terms of educational content, technological resources, and interaction possibilities; there is growing concern about the quality of the interface how tasks are completed in these systems, and how the students with special needs students are collaborate with LMSs (Freire et al., 2012). The more advanced LMS tools and features, as well as the idea that interactive, collaborative, and engaging parts have the lowest user engagement and fundamental LMS features, have the most. Modern learning settings need anytime and anywhere access to course materials, collaboration, and participation by mobile-friendly devices due to the prevalence and rising importance of mobile devices. Therefore, it is important to focus more on creating user-friendly mobile device interfaces that can motivate all types of students in inclusive classrooms for the LMS to use all available tools and features.

There are numerous learning management systems available, including e-Coach, A Tutor, Skillshare, LearnUpon, Google Classroom, Moodle, Blackboard, Desire2Learn, Schoology, TalentLMS, and Canvas. Where, Google Classroom and Moodle are the most widely used LMSs in India, and Blackboard is the most widely used LMS in the USA (Hunaiyyan, 2020). The use of LMSs benefits educational institutions all across the world and generates chances for more inclusion in the classrooms where; all different and diverse students can get equal opportunities to study at their own pace (Kat, 2010). An LMS plays a significant role in using different online sessions so, that students with special needs can learn at their own pace and the school can manage their classes also as per the requirements of the students. Through LMS every student can get equal opportunities and chances to fulfill their educational goal as per the technological enhancement. So, here I can say that LMS plays a very vital role in enhancing the education of students with special needs and now school teachers are also able the resolve the educational problems of every student in inclusive classrooms through the help of the LMS.

Objective of the study-

1. To study the awareness of LMS among school teachers for inclusive classrooms.
2. To study the accessibility of LMS among school teachers for inclusive classrooms.
3. To study the challenges faced by school teachers in using the LMS in an inclusive classroom.
4. To check the enhancement of Inclusive classrooms through LMS.
5. To study the teacher's perspectives to enhance the inclusive classroom through LMS.

Research Questions-

1. Are the teachers aware of the LMS for inclusive classrooms?
2. Do the teachers access the LMS for the inclusive classrooms?
3. What are the challenges faced by school teachers in using the LMS in an inclusive classroom?
4. What is the school teacher’s perspective towards LMS for the Inclusive classroom?

Assumptions-

1. School teachers are aware of the use of LMS for inclusive classrooms.
2. Teachers can access the LMS in inclusive classrooms.
3. Teachers faced challenges while using the LMS in an inclusive classroom.
4. Teachers have a positive perspective towards LMS in an inclusive classroom.

2. Methodology

This study's methodological approach is a quantitative method wherein a questionnaire was designed and developed to investigate teachers' prospects, challenges, and perspectives toward LMS in an inclusive classroom, their use of LMS tools and functions, and the challenges that may affect LMS usage by School teachers. The questionnaire was developed by the researcher and reviewed by experts in the field. The questionnaire is divided into four sections, section 1: demographic data, Section 2: Awareness and Experiences with LMS for inclusive classrooms, and Section 3: Twenty items which are divided into four sections i.e. A. Teacher's accessibility use of tools and functions provided in LMS, B. consists of questions about the challenges of LMS, C. Teachers' enhancement of LMS and Section D: teachers perspective towards LMS for inclusive classrooms. The items in the questionnaire consisted of a Yes, No, and Can’t Say

format. Here, Researcher used the purposive sampling and selected the sample from the two different Boards i.e. CBSE and ICSE. And first try of the tool was administered on a sample of 15 school teachers with 30 items and after item analysis, researchers selected only the 20 items as per four different dimensions (as stated above) Under the guidance of the supervisor, along with ICT and special education experts.

Data Collection

Researchers used self-made questionnaires to investigate the prospects, challenges, and perspectives of LMS for Inclusive Education in the different schools; here researcher selected the schools from the Varanasi district only, here, and two schools of the CBSE Board (1. Kendriya Vidyalaya, BHU 2. Tulsi Vidhya Niketan) and two schools from the ICSE Board (1. St. Johns School, BLW, and 2. W.H. Smith Memorial School). The researcher took ten samples of teachers (male and female) with different teaching subjects from each school. The questionnaires were distributed offline by the researcher to every ten teachers of the particular schools. Based on the questionnaires' data, statistical analysis was performed in which some simple analytical tools such as Percentage, and representation of the data pie chart.

2.2 Data Representation-

Table 1: Representing the Teachers' Responses on LMS Integration for Inclusive Education Across Key Dimensions in the Selected Varanasi District Schools

Sr. No	Variables	Item no.	Response in no.				Response in Percentage		
			Yes	No	Can't say	Total	Yes%	No%	Can't say%
1.	Awareness	1	37	02	01	40	92.5	5	2.5
2.		2	33	05	02	40	82.5	12.5	5
3.		3	32	05	03	40	80	12.5	7.5
4.		4	34	01	05	40	85	2.5	12.5
5.	Accessibility	5	31	04	05	40	77.5	10	12.5
6.		6	35	01	04	40	87.5	2.5	10
7.		7	35	03	02	40	87.5	7.5	5
8.		8	34	03	03	40	85	7.5	7.5
9.	Challenges	9	35	02	03	40	87.5	5	7.5
10.		10	28	06	06	40	70	15	15
11.		11	25	09	06	40	62.5	22.5	15
12.		12	33	03	04	40	82.5	7.5	10
13.	Enhancement	13	31	05	04	40	77.5	12.5	10
14.		14	30	06	04	40	75	15	10
15.		15	27	09	04	40	67.5	22.5	10
16.		16	28	07	05	40	70	17.5	12.5
17.	Perspective	17	23	15	02	40	57.5	37.5	5
18.		18	31	07	02	40	77.5	17.5	5
19.		19	27	09	04	40	67.5	22.5	10
20.		20	23	13	04	40	57.5	32.5	10

2.3 Data Aggregation-

Here, Diagram 1, shows the Pie Chart of 'Yes' responses, of the respective variables (Awareness of LMS, 2. Accessibility of the LMS, 3. Challenges and issues of LMS 4. Enhancement of the technical skill, and 5. The perspective of school teachers towards the LMS by the different schools and different teachers.

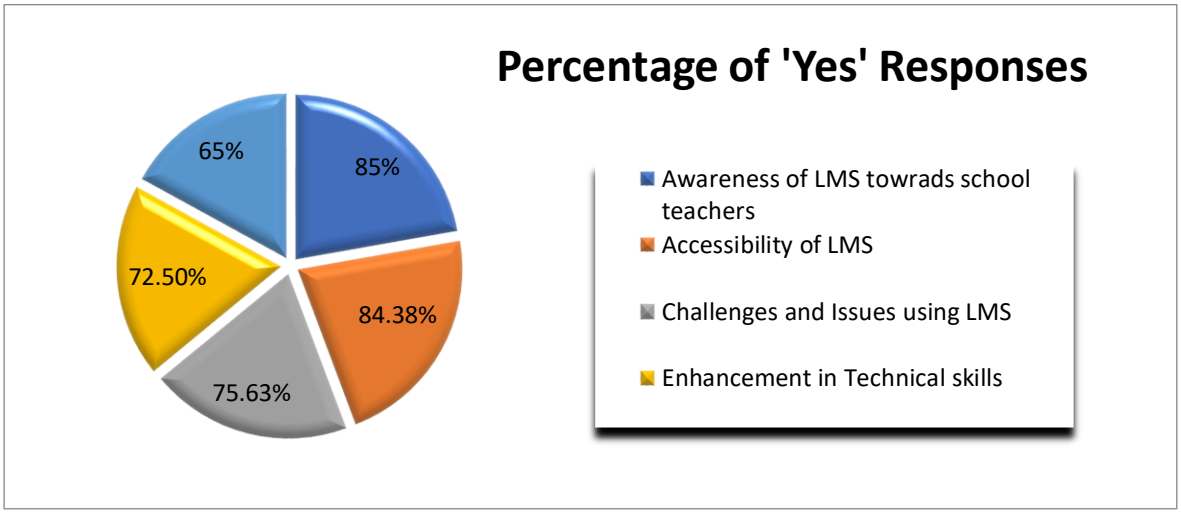
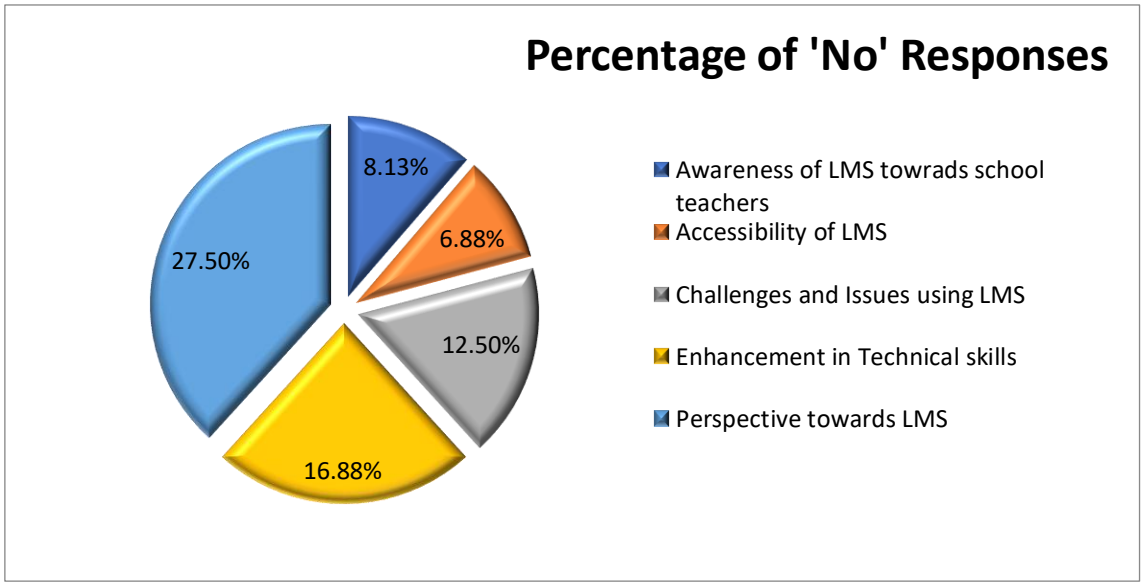


Diagram 1: Showing the Pie Chart of Teachers' 'Yes' Responses on Core Aspects of LMS Use for Inclusive Education

Here, Diagram -2, shows the Pie Chart of 'No' responses, of the respective variables (Awareness of LMS, 2. Accessibility of the LMS 3. Challenges and issues of LMS 4. Enhancement of the technical skill, and 5. The perspective of school teachers towards the LMS by the different schools and different teachers.

Diagram 2: Showing the Pie Chart of Teachers' 'No' Responses on Core Aspects of LMS Use for Inclusive Education



Here, Diagram-3, shows the Pie Chart of 'Can't Say' responses, of the respective variables (Awareness of LMS, 2. Accessibility of the LMS 3. Challenges and issues of LMS 4. Enhancement of the technical skill, and 5. The perspective of school teachers towards the LMS by the different schools and different teachers.

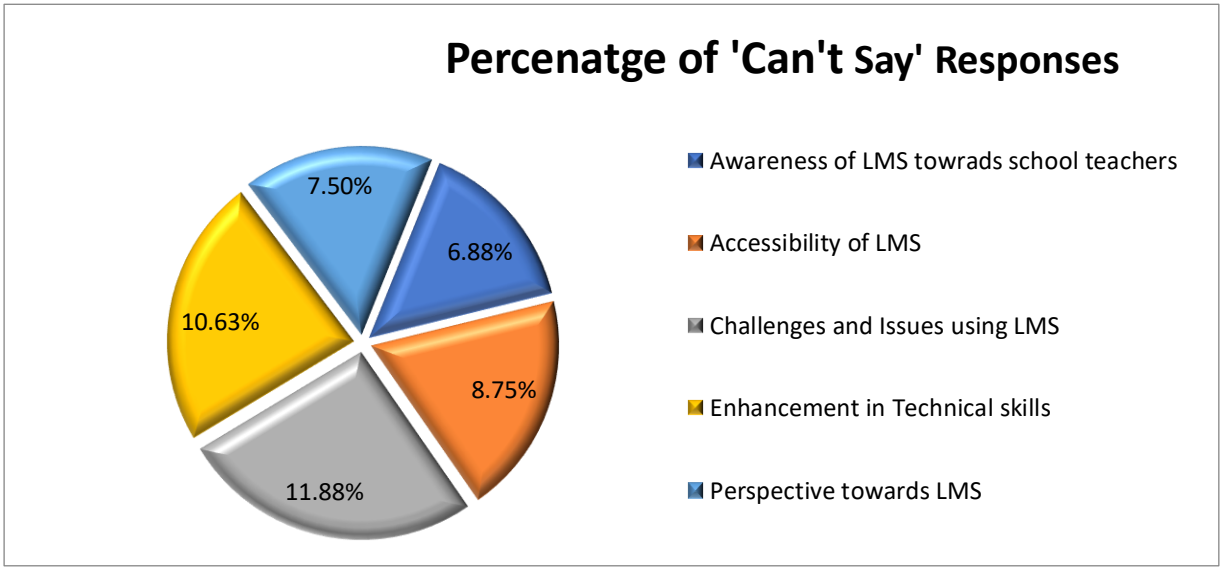


Diagram 3: Showing the Pie Chart of Teachers' 'Can't Say' Responses on Core Aspects of LMS Use for Inclusive Education

3. Result and Discussion-

This study seeks to understand the experiences of teachers and students by using LMS for the Inclusive classroom in the schools. Here, the researcher checks the Awareness, Accessibility, Challenges, Enhancement, and Perspective of the LMS towards the Inclusiveness of the classroom. After the data collection researcher found the different parameters of the different variables by the method of the percentage. This study shows that –

A. **Awareness of LMS-** In this variable, the researcher found that 85% of the teachers are aware of the LMS of the different schools whereas, only 8.12% of teachers are not aware of the LMS and 6.87% of teachers were given the answer in can't say. Here, we can say that teachers were not aware that they were old in age, and had no technical skills, and exposure to the new trends in technology, they were working through other virtual platforms (zoom, Google Meet, etc.) rather than the LMS.
B. **Accessibility of LMS-** For this variable, the researcher found that 84.37% of teachers were able to access the LMS interface and were able to find and use the all features of the LMS while taking classes in the inclusive classroom. Whereas only 6.87% of teachers were unable to access the LMS functions and features and 8.75% were in can't say response, these teachers were unable to lack the technical knowledge and information. By this, they were not taking an interest to learn the new technology.
C. **Challenges/Issues –** In this variable, 75.63% of teachers said Yes, and they have faced challenges while teaching in an Inclusive classroom through LMS. Because of that, there were different and diverse types of students in their class, where, they had slow learners and high gifted children too. Due to these factors, teachers may face difficulties delivering lectures and maintaining students' attention through the LMS. By which the requirement of the learning time is not equal to that of normal students that's which may be the cause

of the teachers face the problems in inclusive classrooms. 12.5% of teachers said No, these teachers had good technical skills and communication and collaboration skills with all types of students, and 11.87% of teachers were reported as can't say, these teachers had no more knowledge regarding the LMS and due to the age factor and lack of the technical skills.

D. **Enhancement of the Technical Knowledge of the LMS-** For this variable, teachers reported the 72.5% Yes in form because they agreed that after the use of the LMS, they gained technical skills in different functions and features. And enhance the quality of the teaching in an inclusive classroom by the use of LMS. They were almost new-generation teachers and they were ready to learn the new tasks. Whereas, 16.87% of teachers said No, maybe they were unable to learn and work with new tasks, or they like to teach through traditional methods or other simple virtual platforms. Only 10.62% reported that can't say about the skill enhancement through LMS. Because they were may be more skilled full teachers where they had no differences after the use of LMS or before the use of it because they already knew and aware of this, or in this segment, teachers had no idea about the online learning platform to teach the inclusive students.

E. **Perspective of the LMS-** In this variable, only 65% of teachers reported a positive perspective in the form of Yes, which means they took their inclusive classes through LMS with interest and 27.5% of teachers reported No, for a positive perspective towards LMS, which means teachers teaches in an inclusive classroom through the LMS only for the completion the course, they had no positive attitude towards the LMS. Whereas, 7.5% of teachers reported that can't say, they have no idea how they feel or perceive after taking an inclusive class through the LMS. They only follow the school guidelines.

4. Conclusion –

A standard LMS supports an inclusive learning environment for academic progress with intervening structures that promote online collaborative groupings, professional training, discussions, and communication among other LMS users. The study revealed that the level of LMS usage for teaching in various schools has significantly impacted the teachers' online teaching skill performance. The goal of this paper is to investigate the function of LMSs in inclusive classroom education. Through the research investigation, we can answer this issue and construct a more complete picture of learning and teaching activities utilizing LMS. On the one hand, some teachers are very satisfied with the use of LMS in their instructional activities. The usage of a learning management system (LMS) improves communication with students by organizing course materials, assignments, and announcements, on the other hand, some teachers are dissatisfied because the use of an LMS increases their burden in an inclusive classroom through which manages all the diverse students by the online platform. The majority of them stated that as long as they have face-to-face lectures where they can manage and regulate the classes as per the needs of the single student, there is no need to integrate interactive and discussion activities on the blackboard. In the end, technical issues and users' computer literacy are the main barriers to integrating technology into education. For these reasons, the current study recommended more frequent LMS training courses to every school teacher to manage every student with an equal chance in an inclusive classroom.

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