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### TEACHING & LEARNING MANAGEMENT SYSTEM (LMS) AMONG HIGHER EDUCATION TEACHERS

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#### ABSTRACT

India's higher education system, after China and the United States, is the third largest in the world <sup>(12)</sup> Education is considered to be the most powerful weapon for a successful life and for an institution to integrate the learning management system (LMS) into their teaching process in order to achieve effective learning outcome. The objective of the study is to know the current practice of learning management system (LMS) among higher education teachers of Bengaluru & Mysuru districts of Karnataka and to recommend potential interventions to increase the learning management system (LMS) in higher education or teacher education program in Karnataka. A descriptive methodology was adopted for the study. Population comprised of teachers of higher education. A data of 643 teachers participating in a life skills training program was utilized. Socio demographic factors, learning and teaching factors were used to calculate frequencies and proportions. The mean age of study participants was 40.7 years (SD=7.84 years), 84% were currently married, 91.1% had completed post-graduation & above, 81.8% lived in urban areas. About 62% of teachers rated themselves as having good mastery in their subject. About 59% reported their teaching abilities as good and 49.6% reported that they were good at managing their own activities successfully. Half of the participants (49.8%) reported to be good at use of technology assisted/ LMS teaching methods. Only about 13% were using technology/LMS mode of teaching & 26% used lecturing mode. Besides, only 20% and 16% were interested in technology/LMS and activity-based teaching respectively. Demonstration method was rated as the favorite teaching aid among both genders in urban settings. The study concluded and highlighted the need for addressing different modes of teaching, convenience of utilizing technology/LMS assisted teaching method especially in rural locality

**Keywords:** Mode of teaching, Higher education, Teacher, Learning Management Systems.

## I. INTRODUCTION:

India's higher education system, after China and the United States, is the third largest in the world<sup>(13)</sup>. Higher education is one of the key areas of concern, recognized as an important factor, that contributes significantly to the success of individual, social change and economic growth that leads to a holistic development of the country. Karnataka is a fast-paced economic and technological state. Many career aspirants come to this state to study higher education considering the state as ideal for education. In terms of higher education, Karnataka is vastly known in the field of technology. The government and education departments have always been proactive in improvising the state of education. Bangalore is the capital of Karnataka and a Centre for information technology, and Mysore is a heritage city in the south and has made significant contributions to education.

Education is considered to be the most powerful weapon of life for success, and is the process of facilitating learning or acquisition of knowledge, skills, values, beliefs and customs. Education often takes place under the guidance of educators who shape the future of all by providing the best education for students. The current paradigm shift from traditional educational environments to online educational environments in higher education can be seen as both an opportunity and challenge to create an active and interactive learning environment, one which gives the learner opportunity to engage and think in multiple ways<sup>(2)</sup>. Learning management system is used to describe software tools designed to manage user learning interventions and provide students, teachers and administrators with access to online and technology learning services and this is a software system that allows educational courses to be developed and delivered using the Internet as a delivery system. Integrating the learning management system (LMS) into the practice of teaching is therefore one of the important approaches in the teaching and learning process. LMS has a wide range of products and services that can meet the needs of 21st century learners and educators.

The learning management system is a web-based or cloud-based software program which assists in the learning process and assists in the successful delivery of instruction, training and development programs. The Learning Management System facilitates the use and access of services by instructors, learners and administrators, and does not limit time and place in the teaching and learning process. Technically definition for a learning management system is as: "A Learning Management System is a software application for the administration, documentation, tracking, reporting and delivering by e-learning education courses or training programs."<sup>(7)</sup>. Learning and communicating electronically provides solutions for higher education institutions and also enables students to view multimedia lectures, communicate with their teachers and one another in community teaching, download course materials, take online quizzes and submit homework and assignments. In addition, this process adapts innovation in their teaching process to achieve an effective learning outcome.

Technology plays an increasingly important role in improving access to education for people living in impoverished areas and developing countries. The lack of technological advancement continues to create barriers to quality and access to education in developing countries. As per report of the Indian education sector in India industry estimated that Indian education will adopt innovative and transformative approaches in education and emerge as one of the largest providers of international talent, one in four students in the world being the result of the Indian higher education system by the year 2030. That is the reason a number of government initiatives are being taken to boost the growth of the distance learning market, in addition to focusing on new education techniques, such as e-learning and M-learning<sup>(6)</sup>. All educators are now drastically changing the way they educate their students. The importance is therefore shifting to teaching the skills of learning by using technology, pedagogy, LMS and by different modes like demonstrating, presentation, video, audio, practical, activity based or combination of these all. Thus, this study looks at the current practice if learning management systems among higher education teachers of Bengaluru and Mysuru districts of current and recommend

potential interventions to increase learning management systems in the current higher education systems in Karnataka.

## II. OBJECTIVES:

1. To study the current practice of learning management system (LMS) among higher education teachers of Bengaluru & Mysuru districts of Karnataka
2. To recommend potential interventions to increase the learning management system (LMS) in higher education or teacher education program in Karnataka

## III. METHODOLOGY:

The current study adopted a descriptive study design to study the current practice of teaching learning methods amongst teachers of higher education institutions in Bengaluru and Mysuru districts of Karnataka, a state in southern India. Data from 643 government teachers across different departments and colleges of government institutes attending the life skills training and counselling services program conducted at the Department of Epidemiology, Centre for Public health, NIMHANS was utilized. The questionnaire used in this study adapted a rating methodology to assess teaching factors. It was a five-point rating scale with rating very poor as 1, poor as 2, neither good nor poor as 3, good as 4, and very good as 5. We utilized data on socio-demographic factors, teaching skills and learning skills components of the questionnaire. This consisted of 35 questions. Data were analyzed using STATA12. Descriptive statistical tests such as frequency, percentages, mean and standard deviation were performed to understand their socio-demographic profile, learning skills and teaching skills.

Socio-demographic factors included information on age, gender, districts, locale, marital status, religion and education. Questions related to learning skills included mastery in subject, general knowledge, teaching abilities, managing own activities effectively, convenience of utilizing technology/LMS assisted teaching method. Information on teaching skills included regular mode of teaching and favorite mode of teaching.

## IV. RESULTS:

Overall, 643 respondents participated in the study. Respondents were from Bengaluru and Mysuru districts of Karnataka state of India. The age group of respondents ranged from 21 to 60 years (table 1). Mean age of study participants was  $40.7 \pm 7.84$  years with more men (55.37%) participating than women (44.63%). Majority of the study participants were currently married (84%). About 92.85% of the respondents were Hindus. Over 90% (91.14%) of study participants had studied post-graduation & above.

**TABLE 1. SOCIO DEMOGRAPHIC FACTORS OF RESPONDENTS FROM BENGALURU AND MYSURU DISTRICTS OF KARNATAKA (N=643)**

| Factors               | Male       | %     | Female      | %     | Total      | %      |
|-----------------------|------------|-------|-------------|-------|------------|--------|
| Age                   | 41.1(8.36) |       | 40.21(7.13) |       | 40.7(7.84) |        |
| Gender                | 356        | 55.37 | 287         | 44.63 | 643        | 100.00 |
| <b>Districts</b>      |            |       |             |       |            |        |
| Bangalore             | 234        | 49.37 | 240         | 50.63 | 474        | 100.00 |
| Mysore                | 122        | 72.19 | 47          | 27.81 | 169        | 100.00 |
| <b>Locale</b>         |            |       |             |       |            |        |
| Rural                 | 79         | 22.19 | 38          | 13.24 | 117        | 18.20  |
| Urban                 | 277        | 77.81 | 249         | 86.76 | 526        | 81.80  |
| <b>Marital Status</b> |            |       |             |       |            |        |

|                            |     |       |     |       |     |       |
|----------------------------|-----|-------|-----|-------|-----|-------|
| Currently married          | 299 | 83.99 | 244 | 85.02 | 543 | 84.45 |
| Widowed/divorced/separated | 6   | 1.69  | 10  | 3.48  | 16  | 2.49  |
| Never married              | 51  | 14.33 | 33  | 11.50 | 84  | 13.06 |
| <b>Religion</b>            |     |       |     |       |     |       |
| Hindu                      | 331 | 92.98 | 266 | 92.68 | 597 | 92.85 |
| Muslim                     | 10  | 2.81  | 11  | 3.83  | 21  | 3.27  |
| Christian                  | 6   | 1.69  | 9   | 3.14  | 15  | 2.33  |
| Others                     | 9   | 2.53  | 1   | 0.35  | 10  | 1.56  |
| <b>Education</b>           |     |       |     |       |     |       |
| Degree/diploma             | 33  | 9.27  | 24  | 8.36  | 57  | 8.86  |
| Post-graduation and above  | 323 | 90.73 | 263 | 91.64 | 586 | 91.14 |

**TABLE 2. LEARNING SKILLS AMONG RESPONDENTS FROM BENGALURU AND MYSURU DISTRICTS OF KARNATAKA (N=643)**

| Learning skills   | Male | %     | Female | %     | Total | %     |
|---|------|-------|--------|-------|-------|-------|
| <b>Mastery in subject</b>   |      |       |        |       |       |       |
| Neither good nor poor   | 13   | 3.65  | 11     | 3.83  | 24    | 3.73  |
| Good  | 225  | 63.20 | 173    | 60.28 | 398   | 61.90 |
| Very good   | 116  | 32.58 | 98     | 34.15 | 214   | 33.28 |
| <b>General knowledge</b>  |      |       |        |       |       |       |
| Neither good nor poor   | 36   | 10.11 | 66     | 23.00 | 102   | 15.86 |
| Good  | 239  | 67.13 | 170    | 59.23 | 409   | 63.61 |
| Very good   | 76   | 21.35 | 40     | 13.94 | 116   | 18.04 |
| <b>Teaching abilities</b>   |      |       |        |       |       |       |
| Neither good nor poor   | 15   | 4.21  | 9      | 3.14  | 24    | 3.73  |
| Good  | 211  | 59.27 | 167    | 58.19 | 378   | 58.79 |
| Very good   | 129  | 36.24 | 107    | 37.28 | 236   | 36.70 |
| <b>Managing own activities effectively</b>                              |      |       |        |       |       |       |
| Neither good nor poor   | 18   | 5.06  | 13     | 4.53  | 31    | 4.82  |
| Good  | 173  | 48.60 | 146    | 50.87 | 319   | 49.61 |
| Very good   | 162  | 45.51 | 124    | 43.21 | 286   | 44.48 |
| <b>Convenient in utilizing technology/LMS assisted teaching methods</b> |      |       |        |       |       |       |
| Very poor   | 9    | 2.53  | 4      | 1.39  | 13    | 2.02  |
| Poor  | 11   | 3.09  | 10     | 3.48  | 21    | 3.27  |
| Neither good nor poor   | 53   | 14.89 | 36     | 12.54 | 89    | 13.84 |
| Good  | 172  | 48.31 | 148    | 51.57 | 320   | 49.77 |
| Very good   | 111  | 31.18 | 89     | 31.01 | 200   | 31.10 |
| <b>The availability of resources to carry out job responsibilities</b>  |      |       |        |       |       |       |
| Very poor   | 4    | 1.12  | 5      | 1.74  | 9     | 1.40  |
| Poor  | 24   | 6.74  | 15     | 5.23  | 39    | 6.07  |
| Neither good nor poor   | 54   | 15.17 | 60     | 20.91 | 114   | 17.73 |
| Good  | 190  | 53.37 | 142    | 49.48 | 332   | 51.63 |
| Very good   | 84   | 23.60 | 65     | 22.65 | 149   | 23.17 |

About 62% of participants rated themselves as having good mastery over their subject & approximately one-third of them rated themselves as very good. About 2/3<sup>rd</sup> participants (63.6%) rated their general knowledge as good. Only about 16% of them rated themselves as neither good nor poor in their general knowledge. About 58.8% reported as having good teaching abilities and 36.7% very good. Almost half rated managing their own activities effectively (49.6%) and utilizing technology (49.8%) as good and 44.5% and 31% respectively as very good. About half of the respondents 51.6% rated their availability of resources to carry out their job responsibilities as good and 23.2% of them rated very good.

**TABLE 3. MODE OF TEACHING AMONG RESPONDENTS FROM BENGALURU AND MYSURU DISTRICTS OF KARNATAKA (N=643)**

| Mode of teaching                 | Male | %     | Female | %     | Total | %     |
|----------------------------------|------|-------|--------|-------|-------|-------|
| <b>Regular mode of teaching</b>  |      |       |        |       |       |       |
| Lecture                          | 129  | 36.24 | 101    | 35.19 | 230   | 35.77 |
| Demonstration                    | 14   | 3.93  | 8      | 2.79  | 22    | 3.42  |
| Black/White board                | 47   | 13.20 | 31     | 10.80 | 78    | 12.13 |
| Technology/LMS based             | 40   | 11.24 | 45     | 15.68 | 85    | 13.22 |
| Activity oriented teaching       | 36   | 10.11 | 26     | 9.06  | 62    | 9.64  |
| Combination of these             | 90   | 25.28 | 76     | 26.48 | 166   | 25.82 |
| <b>Favorite mode of teaching</b> |      |       |        |       |       |       |
| Lecture                          | 97   | 27.25 | 70     | 24.39 | 167   | 25.97 |
| Demonstration                    | 20   | 5.62  | 12     | 4.18  | 32    | 4.98  |
| Black/White board                | 43   | 12.08 | 33     | 11.50 | 76    | 11.82 |
| Technology/LMS based             | 63   | 17.70 | 65     | 22.65 | 128   | 19.91 |
| Activity oriented teaching       | 64   | 17.98 | 39     | 13.59 | 103   | 16.02 |
| Combination of these             | 69   | 19.38 | 68     | 23.69 | 137   | 21.31 |

About one-third (35.8%) of respondents reported that they regularly teach through lecturing mode. About 25.8% of them are use a combination of these modes of teaching. Only about 13% of respondents were using technology/LMS based teaching with female teachers utilizing it more (15.68%) compared to male teachers (11.24%). Over one fourth of respondents (25.97%) still like lecturing as their favorite mode of teaching. Approximately one-fifth (19.9%) quoted technology/LMS based teaching mode as their favorite mode of teaching.

**TABLE 4. MODE OF TEACHING SKILLS FACTORS WITH LOCALITY AMONG RESPONDENTS FROM BENGALURU AND MYSURU DISTRICTS OF KARNATAKA (N=643)**

| Regular mode of teaching   | Rural |      | Urban |      | Total |      |
|----------------------------|-------|------|-------|------|-------|------|
|                            | n     | %    | n     | %    | n     | %    |
| Lecture                    | 31    | 26.5 | 136   | 25.9 | 167   | 26.0 |
| Demonstration              | 3     | 2.6  | 29    | 5.5  | 32    | 5.0  |
| Black/White board          | 14    | 12.0 | 62    | 11.8 | 76    | 11.8 |
| Technology/LMS based       | 16    | 13.7 | 112   | 21.3 | 128   | 19.9 |
| Activity oriented teaching | 21    | 17.9 | 82    | 15.6 | 103   | 16.0 |
| Combination of these       | 32    | 27.4 | 105   | 20.0 | 137   | 21.3 |
| Favorite mode of teaching  | Rural |      | Urban |      | Total |      |
|                            | n     | %    | n     | %    | n     | %    |
| Lecture                    | 42    | 35.9 | 188   | 35.7 | 230   | 35.8 |



|                            |    |      |     |      |     |      |
|----------------------------|----|------|-----|------|-----|------|
| Demonstration              | 1  | 0.9  | 21  | 4.0  | 22  | 3.4  |
| Black/White board          | 13 | 11.1 | 65  | 12.4 | 78  | 12.1 |
| Technology/LMS based       | 13 | 11.1 | 72  | 13.7 | 85  | 13.2 |
| Activity oriented teaching | 11 | 9.4  | 51  | 9.7  | 62  | 9.6  |
| Combination of these       | 37 | 31.6 | 129 | 24.5 | 166 | 25.8 |

Over a quarter of respondents use of lecture mode as a teaching aid and this was same among both urban and rural participants. This was followed by Combination of teaching method. (27% among rural and 20% among urban participants). Over 19% urban participants also used other teaching aids such as lecture and technology/LMS based teaching. Favorite mode of teaching aid was lecture among both rural and urban participants. Ironically, among both locality although they prefer technology mode of teaching.

## V. DISCUSSION

The intension of this study is to know the learning capabilities or abilities skills and adopting into teaching at higher education institution or to study the learning management system in higher education teachers in Bengaluru & Mysore of Karnataka. Results from the study show that it would be ideal to recommend focused and integrated interventions to increase the learning management system or use of technology in higher education institutions. Institutions need to adopt new technology or LMS as part of their teaching aids. Although, respondents have rated good and very good on convenience of utilizing technology or LMS assisted teaching methods and using availability of resources to carry out job responsibilities, in reality, very few respondents were using technology /LMS assisted teaching methods. Thus, higher education institutions need to strengthen the use of technology assisted teaching/ LMS among their teaching fraternity.

This study is unique as it assesses teaching factors among higher education teacher of Bengaluru and Mysuru districts of Karnataka. Large sample size and data collection through a self-administered questionnaire ensure, risk of bias is minimal. Stringent methodology during data collection ensures quality data.

The study findings (Chaubey A, Dr. Bhattacharya B, 2015) found that without learning management system (LMS) it would be most difficult to plan, implement and deliver the instruction and training in an effective way. The uses of LMS to facilitate interaction enhance learning abilities and support higher order learning, includes problems solving, critical thinking and collaboration skills (Smaldino, S.E., Russell, J.D., et al 2005; Suwannathachote, P., and Monsakul, J, 2007). Learning management system is one of the best solutions in cost effectiveness in higher education as it provides an opportunity for reaching a large, globally dispersed audience in a short period of time with consistent content delivery.

Arthur et al. suggests seven good teaching and learning practices for undergraduate education increasing student-faculty interaction is necessary as it facilitates the student to be involved intellectually and make their career plans where the faculty would gear them both at times of success and difficulties. Secondly the team effort plays an important role where sense of collaboration and social comes into picture then merely being a competitive scenario

According to the study (Ghavifekr, Simin; Rosdy, Wan Athirah Wan 2015) results and findings indicate that Information communication and technology (ICT) integration has a great effectiveness for both teachers and the students and well-equipped preparation with ICT tools and facilities is one the main factors in success of technology-based teaching and learning. It was also found that professional development training programs for teachers also played a key role in enhancing students' quality learning.

A study has some limitations; temporality of association cannot be ascertained. As in a Self-administered questionnaire order in which the answers are recorded is not known. Hence, no information on learning and teaching skills and results from this study may not be generalizable to educator/teacher community as a whole.

## VI. CONCLUSION:

In today's world where education plays an important role in growing societies, online education would be indeed a great way to suffice this need. Technology/LMS are of the systems which could be used for this purpose; these systems are using not only in distance education but also in actual type education where there exists face to face interaction, hence the evaluation of such systems seen as important issue to increase the quality of education.

The result of this study focused on the learning management system of higher education teachers of Bangalore and Mysore districts of Karnataka. Learning Management System (LMS) works as switch for broader improvement of teaching and learning and is useful for the higher education institutions to manage the process effectively and more efficiently. But still the system has to see the improvement on the existing resources or practices. Most significantly, Learning Management System has provided easy access to and thus promoted flexibility in learning that one can learn from anywhere and at any time without place and time constraints. Further studies to through more light on larger teaching fraternity is required

## VII. RECOMMENDATIONS

Based on the findings of the study the following recommendations are placed herewith for the considerations of policy makers, teacher educators and related departments. The improvement of teacher education and teaching in technology/ LMS or by combination method should be viewed as a top national priority in government Institutes for permanent teachers. COVID-19 pandemic has redefined and strengthened the need of use of LMS in education. Improving professional education using improved methods of teaching, teaching skills and knowledge in or sponsor in-service training program will go a long way in enhancing both teaching and learning experiences among teachers and their pupils.

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