

The Current State of the Problems and Approaches for Mathematical Literacy

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Abstract

The purpose of this study was to study the current state of the problems and approaches for developing and learning management to enhance mathematical literacy for secondary school mathematics teachers'. The research methodology consists of the study of documents and related research. A study of the current state of the problems and approaches to learning management as follows: The lower secondary school level mathematics teachers of the Mathematics Department, the Opportunity expansion school, the Office of the Basic Education Commission (OBEC) beginning in semester 1 of the 2019 academic year. The following tools were used to study the data as follows: 1) the questionnaire was a 5-point level rating scale with a discriminative power of 0.21-0.89, and a reliability value of 0.98. The researchers used multi-stage random sampling to select a sample size of 400 people and received 329 questionnaires, accounting for 82.25 percent of the total, and 2) Semi-structured interview form. The percentage, mean, standard deviation were used in the quantitative data analysis and content analysis. The results showed that the present condition of learning management and mathematics literacy for teachers at the lower secondary level was at the lowest level except the problem-solving tactics at a low level. Problems in learning management of mathematics literacy for lower secondary school teachers from the study found that mathematics teachers had problems at a high level in all items except learning management and problem situation thinking as well as mathematical literacy at the highest level.

Keywords: Current State, Development Guidelines, Mathematical Literacy, Mathematical Literacy Problem

Introduction

Human resources are an important driving factor in raising the development of the country in all dimensions. As a developed country, it is necessary to establish an educational foundation for the systematic development of the country's human resources. Teachers play a variety of roles that drive the quality of education, learning management, but because most math teachers are currently unable to lead students to use in real life. By focusing solely on the subject contents, or the memory of the textbook according to the core curriculum of basic education, and using textbook teaching rather than courses only. The expectation of teachers' characteristics in the 21st century should include teaching and learning seven skills as follows: (1 Curriculum Construction Skills. (2 Child Oriented Management Skills. (3 Classroom Learning Assessment Skills. (4 Classroom Learning Assessment Skills. (5 Classroom Action Research Skills. (6 Classroom management Skills, and (7 Character development Skills. Such

skills are essential for mathematics teachers in learning management) Dechakup & Yindeesuk, 2017; Springe & Persiana, 2011; Sinthaphanon, 2015).

Applying content-oriented knowledge in the field of work or practical use in the future, mathematical literacy means having knowledge and understanding. The ability to combine the use of innovative media technology with teaching methods. The contents in the design of learning in a consistent, and systematic way consequently a solution to the problem. Teachers should be mathematically literate when designing learning management systems. For the ability to manage learning that can be linked to the learner, indicating the student's success. It consists of 3R and 8C skills. Particularly important 3R characteristics or skills include: 1) Reading 2) Writing, and 3) Computing or Arithmetic (Ministry of Education, 2015). Computing is part of the content that needs to be understood if teachers are skilled and manage the learning for learners to be able to apply it in practice. This will help learners have a problem-solving approach and be able to analyze problems that arise. That shows that teachers are able to convey exactly what students will need to apply (Ministry of Education, 2020; OECD, 2016). According to the PISA test, the results of the test are math literacy tests applied to real life. The results of these tests are consistently low, indicating that students in Thailand are still learning mathematics just the contents, but cannot be applied. The math teachers should enhance mathematical literacy which is knowledge or intelligence in applying and learning management should use the mass of experience in the integration of knowledge, abilities, and skills. Also blending in the use of innovative media and technology with a method of teaching content in a consistent, and systematic learning design.)Technological Pedagogical Content Knowledge: TPACK) which is an important basis for the development of competences in various fields and help develop 21st century skills for learners (Institute for the Promotion of Teaching Science and Technology, 2014; Kanchanawasee, 2009; Yenphech, 2018). The implementation of learning management systems for teachers to improve mathematical literacy prepares the young. Then, equip young people with information, the capacity to think critically, evaluate issues, and solve them. As a result, it is possible to engage in a civilization founded on science and technology, which is the foundation of everyday life. When teachers have the knowledge and skills to manage teaching in accordance with changes in social problems and the impact of technology. It enables people to recognize and evaluate the social issues that result from those impacts. In addition, information will be gathered from administrators, school teachers, educators, and related educational institutions as part of the research. As a result, they are aware of the current situation, problems, and guidelines for the development of learning management that should be taken into account when formulating guidelines for the development of learning management to improve mathematics skills for teachers at the lower secondary school level. It promotes more effective education management and serves as an alternative for teachers to use as a guideline for measuring and evaluating learners' knowledge and skills in preparing youth for quality and competitiveness in the global economic system.

Research Questions 1) How should the current state of lower secondary school teachers' learning management problems with mathematics literacy be expanded educational opportunities under the Office of the Basic Education Commission? 2) How do the development uidelines for lower secondary school teachers' mathematical literacy expand educational opportunities? What should fall under the Office of the Basic Education Commission?

Research Objectives 1) To investigate the current state of learning management problems in order to enhance mathematical literacy for lower secondary school teachers. 2) To propose the guidelines for the development of learning management to enhance mathematical literacy for teachers at the lower secondary school level.

Problems in mathematics literacy allude to impediments or impediments to the teaching of mathematics at the lower secondary level, the Opportunity Expansion School, and the Office of the Basic Education Commission (OBEC) with issues concerning Courses in Learning Management, Learning Management, Using Teaching Materials, Measurement and Evaluation, Lower secondary school level thinking problems in Mathematics, Interpretation and Assessment of Results, Mathematics Content, and Mathematics Exam Layout.

Therefore, the study of current state of the problems and guidelines for the development of learning management to enhance mathematical literacy are of great importance for the development of the curriculum to be appropriate and in line with the needs of society. Additionally, in order to develop guidelines for teachers, and teachers should have knowledge and understanding of the learning process so they can lead these to students.

Literature review

The Definition of Mathematics Literacy

Teachers' mathematical literacy refers to a person's ability to reason, interpret, and solve mathematical processes, as well as problem-solving skills in a wide range of situations (Bussiere, 2001: 86; Martin, 2007: 29; OECD, 2013) Learning management for enhancing mathematical literacy entails developing knowledge, Comprehension, and Subject Competency through Reasoning, Interpreting, Problem-Solving, and Mathematical Process Abilities. Mathematics instructors at the lower secondary school level can benefit from talent and learning management systems in a number of scenarios.

The Priorities of Mathematics Literacy

The current state of mathematical literacy refers to the current condition of mathematics literacy teaching at the lower secondary level on the following issues: Situational Thinking of Math Issues, Mathematical Processes, Mathematical Reasoning, Connecting to Practice Guidelines, Problem-Solving Techniques, Measurement and Assessment, and Learning Design for Mathematics Instructors at the lower secondary school level from the start. The focus of math literacy assessment is to be able to obtain intelligent information and apply it in real-life situations. Real-world mathematics problems such as quantities, shapes, probabilities, and mathematical concepts, as well as critical situations of problems, encourage research to explore and lead to solutions (Institute for the Promotion of Teaching Science and Technology, 2014: 1-2; Spangenberg, 2012).

The Importance of Mathematics Literacy

The significance of mathematics literacy assists with understanding the issues or needs genuinely and to achieve the errand. It likewise plans individuals to live in a general public that is innovatively best in class and to apply numerical education and strategies appropriate for an assortment of circumstances (Steen, 2001; Wilson, 2012; Yore, et al., 2007) Development Guidelines relate to what is the support that causes changes in knowledge, understanding, and behavior of teaching and learning management in improving the teaching and learning process regarding mathematical literacy on a number of topics. Curriculum, learning management, and assessment and evaluation of lower secondary mathematics instructors, for example, are all responsibilities of the Board of Basic Education, Thailand.

Characteristics of Mathematics Literacy

The following are the details for the development of teaching and learning: 1) The situation is the information part that is used as a stimulus for answering questions about events, phenomena, or experiences that are consistent and related to the realities of life and society,

and 2) Questions are instructional components that require the test taker to perform or respond to a given stimulus, use mathematical thinking skills and apply knowledge, skills to fill in numbers, fill in details in tables. Alternatively, draw a picture and then fill it with symbols. Mathematics Literacy questions will be based on problem-solving scenarios. Context-based questions, which come in a variety of exam formats, include a subject and questions about that subject. Each question specifies specific exam criteria (Mathematical Content, Context, Process, and Format of the exam). Mathematical literacy for teachers corresponds to a person's capacity to reason, understand, and solve issues using mathematical process abilities and problem-solving in a wide range of circumstances at the lower secondary school level. Affiliated with the Opportunity expansion school, the Office of the Basic Education Commission (OBEC), Thailand.

Approaches for Developing Mathematics Literacy

Learning management for enhancing mathematical literacy relates to an educational method designed to help, guide, and support instructors of mathematics at the lower secondary school level who are solving or are in the process of addressing a problem. Teachers of mathematics are unable to successfully learn about mathematical knowledge in the presence of a pleasant teacher or educator, or someone with stronger potential to assist and support them. The method of support is determined by the teachers' capacity to manage their classrooms. When teachers are competent to manage mathematics instruction and learning on their own to some level. Aid will be cut or eliminated. The following summarizes the relationship between various situations, problems, and problem characteristics related to context-based learning management leading to the development of mathematics literacy (Miller, et al., 2009: 65). 1) Establishing a connection (relating), 2) gaining knowledge through experience (experiencing), 3) applying what you've learned in one situation to a new one, 4) collaboration, which includes exchanging ideas and suggesting solutions, and 5) knowledge transfer to other contexts (transferring), or summarizing the knowledge gained based on their own understanding and then creating a situation in a new context for problem solving.

Educators Involved in Learning Management

Tyler (1950) proposed a model for curriculum development that could be used to address four questions: purpose, educational experience to achieve a defined goal, providing an effective educational experience, and evaluating the success of the experience. The procedure are as follows: (1) Identifying the course's goals, 2) Organizing the activities and learning content according to the objectives, which includes selecting the learning experience, 3) Organizing learning experiences that are important for the learner's continuity, sequencing, integration, and interaction with the context, and 4) Evaluating and reviewing the tools' quality using multiple-choice criteria (objectivity), reliability, validity, and accuracy.

Trends in the Design of Learning Management to enhance Mathematics Literacy

This is due to the fact that learning management comprises of 1) the learning process 2) An instructional method that may be related to the attention employed in everyday life. As a result, it includes the substance of mathematics usage, namely 1) must know the actual world to be able to apply genuine issues that are discovered, and 2) Capable of solving mathematical issues utilizing mathematics literacy and transforming mathematical answers in the actual world to the point where there is no limit. It solely covers the same mathematical concepts as the school curriculum.

Theories of Education for Mathematical Teachers

Mathematics teacher refers to a teacher who teaches mathematics at the lower secondary school level. Affiliated with the Opportunity expansion school, the Office of the

Basic Education Commission (OBEC), Thailand. Educational theorists associated with experiential learning management (Experiential Learning Theory: ELT) pioneered this concept (Kolb & Kolb, 2018). There are four modalities of learning, which are continually alternating cycles of experience, contemplation, reasoning, and understanding-based action.

Planning, coordinating activities, and administering projects are all part of how educational management is carried out. Andragogy is required for adults who participate in activities to share responsibilities, set objectives, organize, carry out activities, and make assessments.

Methodology

The population and the samples

The Population consists of teachers who perform their duties in the teaching of mathematics at the lower secondary school level and in the mathematics learning subject group. The school expands educational opportunities, under the Office of the Basic Education Commission, with a total of 7,083 in the first semester of the 2019 academic year.

The Sample Group is teachers who perform their duties in teaching mathematics at the lower secondary level. The expands educational opportunities, under the Office of the Basic Education Commission, the first semester of the academic year 2019. The sample size was determined using the Yamane (1973: 1088-1089) formula and multi-stage random sampling. In addition, guidelines for developing learning management to improve mathematical literacy for lower secondary mathematics teachers are provided. The school broadens educational options, under the Office of the Basic Education Commission's Office.

Target Group interviewed included: 1) Teachers who were previously responsible to students for their mathematical literacy; with the ability to manage to learn about mathematical literacy in a group of two people, 2) Study supervisors with curriculum expertise or who are responsible for the PISA project on mathematical literacy total of one person, and 3) University professors of math group of two people included a total of five people were purposively selected sampling.

Data collection in the form of information on the current state of the problems and guidelines for developing learning management systems to improve mathematical literacy. Prior to the interview, the researcher requested cooperation in responding to the questionnaire survey as well as interviewing experts by appointment.

Data analysis consists of the following steps: 1) It was done in two ways: quantitative data was analyzed for percentage, mean, and standard deviation, and qualitative data was analyzed using content analysis methods.

Research Results

General Information

The respondents included Mathematics Department teachers who teach mathematics at the lower secondary level, the Opportunity expansion school, the Office of the Basic Education Commission (OBEC), Thailand. The researchers classified the area by region of Thailand by selecting provinces at random from each of the three regions, namely the Northern, Central, and Northeast. The sample size was then calculated using the Yamane at the 95 percent confidence level using a 15% proportion

of all 77 prefectures for 12 provinces. At least 379 people were included in the sample. The researchers increased the sample size to 400 people and used a multi-stage random sampling technique as follows:

Stage 1: Sort the region by region by selecting provinces at random from each of the three regions, namely the North, the Central, and the Northeast. The calculated proportion of 15% of all 77 provinces yields 12 provinces.

Stage 2: In each province, a random district was chosen at random from the number of districts in the number of provinces from stage 1. For all 12 provinces, simple random sampling was employed by drawing lots. There were 132 districts in each of the 11 districts.

Stage 3: Using a simple random sample approach, lower secondary schools that were opportunity expansion schools were randomly picked in each district based on the number of districts in stage 2. A sample of 396 schools was produced by employing a lottery technique for all schools in each district of three schools. The researchers then added four more schools at random, each with one mathematics teacher for a total of 400 schools in order to produce a suitably enough sample group.

Stage 4: In each school of the number of schools in stage 3 of mathematics teachers were randomly selected from the lower secondary level, the Opportunity expansion school of one mathematics teacher per school.

According to the findings of the survey, the majority of mathematics teachers who responded to the questionnaire were 51.06 % males. Most 66.26% had a bachelor's degree, 29.48 % had five to 10 years of teaching experience in mathematics, and 89.66 % had a learning experience in mathematical literacy.

The Current State of the Problems with Mathematical Literacy

Table 1: *The Current State of the Problems*

Item No.	The Current State of the Problems	Mean	S.D.	Meaning
1	Situational Thinking of Mathematics Problems	1.19	0.65	Strongly disagree
2	Mathematics Process	1.37	0.61	Strongly disagree
3	Mathematical Reasoning	1.28	0.62	Strongly disagree
4	Links to Practice Guidelines	1.20	0.66	Strongly disagree
5	Tactical Solutions	2.05	0.73	Disagree
6	Measurement and Evaluation	1.29	0.66	Strongly disagree
7	Design Learning Management	1.47	0.71	Strongly disagree

Table 1 showed the current state of mathematical literacy learning management for lower secondary school teachers as follows: The majority of instructors had the lowest degree of mathematical literacy in all categories. Except for the low-level Tactical Solutions strategies.

Table 2: Problems in Learning Management Mathematics Literacy

Item No.	Learning Management Problems	Mean	S.D.	Meaning
1	The Curriculum of Learning Management	3.52	0.63	Agree
2	Learning Management	4.53	0.76	Strongly agree
3	Use of Teaching Aids	3.55	0.73	Agree
4	Measurement and Evaluation Aspect	3.58	0.70	Agree
5	Problem Situation Thinking Mathematical Literacy	4.51	0.62	Strongly agree
6	Mathematical Problem Solving Process	3.53	0.73	Agree
7	Interpretation and Assessment of Results	3.59	0.71	Agree
8	Mathematics Content	3.55	0.78	Agree
9	Format of Mathematical Literacy	3.52	0.67	Agree

Table 2 showed issues with learning management and mathematical literacy at the lower secondary school level. It was discovered that mathematics teachers had a high level of difficulty in all items. Mathematical literacy was at the highest level, with the exception of learning management and problem-solving.

Approaches for Developing Learning Management to Enhance Mathematical Literacy

The investigation of learning management publications and semi-structured interviews with mathematics teachers, inspectors, and experts in learning management of mathematics with five people were used to determine the IOC value of the questions by selecting items. The questions have a consistency value ranging from 0.60 to 1.00. The interview form was divided in two parts: Part 1 contained general information about the respondents, and Part 2 contained five questions on the approach to learning management development. The following are the questions: 1) What is the approach to developing learning management systems to enhance mathematical literacy?, 2) What are the mechanisms associated with mathematical literacy?, 3) What is the design of learning management systems?, 4) How can we connect mathematical literacy to real-life situations?, and 5) How will the growth of mathematical literacy for mathematics teachers be influenced by opinions? The following are the researchers' summaries of the interview techniques of enhancing mathematical literacy for mathematics teachers:

Curriculum

1) There should be guidelines in place to ensure that the curriculum is prepared in accordance with the correct and appropriate procedures, 2) Appropriate content and curriculum standards, as well as teaching documentation, should be in place and in accordance with the learners' context, 3) The curriculum development should involve communities or people involved in the development of teaching and learning, 4) By adjusting the educational institution's curriculum content, the educational institution's curriculum is consistent with the actual situation. Examine the actual conditions and provide additional studies for analysis. Designing learning management systems that include a variety of activities with content appropriate for the age of the learners and train students to work in a systematic manner is one example, 5) More time should be spent studying in the course structure clearly in the context of the curriculum that has clear guidelines that should be applied to the content to be taught to

learners. The curriculum should focus on the content needed for today's learners to use in their daily lives, as well as the situations required to solve problems.

Management Learning

1) Teachers should teach content that is aligned with the curriculum. The book's content is too difficult, it should be simplified because the exercises are quite difficult, students should be able to learn the issues ranging from easy to difficult. The mathematical content that is too broad is unsuitable for students, 2) Teachers should provide teaching aids and new educational innovations for students to use both in and out of the classroom, 3) Teachers must create new teaching methods to be diverse, emphasize student participation in activities. Learners can create a body of knowledge by solving their own knowledge problems. They must be aware of the context of the student's living situation. 4) Improving efficiency, teachers should design learning management systems that make use of educational technology. It's even better and should be implemented with more care.

Measurement and Evaluation

1) The assessment at the end of each lesson. When teaching each lesson, a qualitative measure of the students is taken to ensure that the content is covered and that the results are evaluated in accordance with the objectives, 2) The measurement and evaluation should be checked at all times also improve teaching and learning, identify learners' flaws and problems before and after learning, 3) Encouraging the development of measuring and evaluation tools to meet standards at all times, as well as the organization of an information system to facilitate measurement and evaluation, 4) The criteria should be adjusted to measure and evaluate the Ministry of Education's standard criteria. Community leaders, parents, or experts in the field of actual measurement and assessment should be involved in measurement and evaluation.

Discussion and Conclusion

The current state of current problems is still studied using lecture-style education with an emphasis on student memory. The inspire students to follow by linking the features of Content-Based, as well as supplying students with basic knowledge but failing to create an engaging learning environment. The focus of instruction is not on issue analysis, but rather on practical connections and techniques for the development of teaching and learning management in mathematical literacy. It is critical for the lower secondary school mathematics teachers to provide criteria for the development of learning management to be used as a guideline for student growth and for students to use to relate their knowledge to real life. The fundamental purpose of the learning process is to establish a network of professional learning communities for use in the design of learning management. Nevertheless, the benefits of both personnel communication and the outcomes of criticism of those involved in learning management for learners. The advantage of exchanging experiences on teaching and learning approaches is that it prepares young people for the age of employing educational technology media to relate to learners' learning.

The Current State of Learning Management

Situational Thinking of Mathematics Problems, Mathematics Process, Mathematical Reasoning, Links to Practice Guidelines, Measurement and Evaluation, Design Learning Management. Except for Tactical Solutions strategies in less concerned with the present state of learning seven points to 35 questions. Especially about the aspect of situational thinking of mathematics problems consisted of (1) how to solve problems using mathematical literacy, (2) Exploring how to solve mathematics problems in personal contexts such as homework, family,

or a group of friends, (3) Considering scenarios and issues involving professional mathematics challenges at school or at workplace, (4) Thinking about situations and problems with social mathematics difficulties in the community, at the local level, nationally, or globally, and (5) The knowledge and understanding of how to assess situations and problems with mathematics in real-life challenges connected to science and technology.

According an educational idea that is congruent with the current situation since effective learning is dependent on learning practices and fundamental psychology. Discussing the Bloom's theory classification of learning, which divides it into three categories: cognitive domain, affective domain, and psychomotor domain. Skill levels are classified from lowest to greatest in each aspect. The issues were important to students with a variety of interests. Teaching knowledge is the understanding of pedagogical approaches such as learning management concepts, teaching methods, strategies, teaching media, and learning resources learning assessment, among several others. The following conditions for teaching and learning mathematics must be related to two types of mathematics content 1) Connecting knowledge in many disciplines of mathematics, and 2) Connecting mathematics to other sciences through general mathematical process abilities in order to recognize the value of learners at all levels and engage in activities linked to daily life. Guidelines for developing learning management to enhance knowledge of mathematics is the curriculum should establish guidelines for curriculum preparation in accordance with proper and appropriate procedures. Assuring that the content and curriculum standards are properly formulated using teaching documentation and in accordance with the learner's context. The curriculum development should engage the communities or individuals involved in the creation of teaching and learning. The educational institution's curriculum should be consistent with the actual conditions in order to adapt the contents of the curriculum to the actual situation and to provide additional study. The curriculum is used to analyze, design learning management, and various activities with content appropriate for the learners' age. According to the findings of the study, the contents that must be used in the daily lives of learners in the current era must be emphasized in the situations that must be solved in order to solve problems in education. The goal is to teach students how to work in a methodical manner, and more time should be allotted in the curriculum to clarify the context. In fact, clear guidelines should be implemented in connection to the actual subject to be taught in a session. The emphasis on content is required for learners to employ in their everyday lives in the current era and problems require situations to be solved. This was consistent with Tyler's (1950: 2-10) notion of Curriculum Development, which said that a curriculum should have educational goals, educational experiences, educational management techniques, and measuring methods to judge the efficacy of education. Furthermore, DeJagupta & Yindeesuk (2017: 16) identified four curriculum components at all levels: curriculum development objectives, curriculum content, instructional management, and evaluation. In addition, Eggen & Kauchak (2001) combine content-based learning in a single subject, which is a link for learners to develop multiple intelligences. A comparable relationship and integrated approach is a combination of diverse teaching methods in teaching and learning activities that use a variety of teaching methods and approaches for overall learning management. Knowledge integration is linked to a process and irrational thinking.

Problems in Learning Management of Mathematics Literacy

The research revealed that lower secondary school mathematics teachers' overall and individual characteristics had problems at high levels in all elements, namely: The Curriculum of Learning Management, Use of Teaching Aids, Measurement and Evaluation Aspect, Mathematical Problem Solving Process, Interpretation and Assessment of Results,

Mathematics Content, and Format of Mathematical Literacy. Except Learning Management and Problem Situation Thinking Mathematical Literacy elements.

In terms of mathematical literacy, the researchers examined at indicators connected to mathematical learning management problems, which included nine topics and 43 questions.

As may be seen, the most prevalent issues are (1) Learning management issues, (2) Problem-solving thinking mathematics literacy, which is still emphasized by the current teaching administration, does not stimulate group work or expression mathematics teachers frequently educate based on textbook information and lack abilities in teaching and learning because the majority of teachers do not have a degree in a teaching major. Aside from teaching, teachers have a variety of additional responsibilities (Office of the Education Council, 2010). Teaching mathematics in a way that is akin to telling students mathematics is a hindrance to genuine learning. When students meet various issues, they are unable to address them in order to improve their mathematical literacy. There is a link between the subject lesson and the application of problem-solving skills in real-life situations (Inprasit, 2003). It is a crucial foundation for teachers linked to past knowledge, thinking processes, and experiences that are specified in learning management theory, which is consistent with the idea of learning management theory. A mathematically valid notion must be clear in the form of detailed, accurate observation, discovery of the link between concrete and conceptual facts, thinking or visualizing, and discovery of creative forms from observation. In terms of learning management, teachers should evaluate the content used to teach in line with the curriculum to ensure that they are all heading in the same direction. The book's material is too tough and should be easy to enhance. The activities are fairly challenging, and they should allow learners to learn about topics ranging from easy to difficult to find. The mathematical content that is too wide is unsuitable for students. Thus, instructional aids and new educational innovations should be provided, and students should be applied both in and out of the classroom. Developing a variety of teaching approaches that emphasize learners' engagement in activities that allow them to solve problems on their own and build a body of knowledge while keeping the context of the student's living sustainability in mind. The initiator of the learning model has four modes of rotation that are constantly changing: experience, reflection, rational thinking, and action based on understanding. The mathematics teachers need to transform learning management into mentors, subject experts, assessment standards setters, and coaches to drive learners to achieve objectives. Teachers should develop learning goals for learners that cover both thinking, emotions, and practice, according to learning management should consist of stages of planning, implementing, observing, and reflecting on performance, thus according. The arrangement of cognitive activities (Hoover, (2012 should handle the issue problem from a daily life perspective. Thus, the relationship between problem solving and situational context (Yu & Lin, (2015 will aid in the ability to create and analyze questions. Thereby selecting the appropriate solution to the situation and analyzing it in accordance with the context of the problem.

Measurement and Evaluation, according to experts, the following points should be addressed in the measurement and evaluation of learning management to improve mathematical literacy: 1) the assessment of each lesson, when each lesson is taught, is qualitatively measured for the student's coverage of the content and for the objectives of measurement and evaluation over time, 2) checking for defects and problems of learners be, 3) Encourage teachers to build measuring and evaluation instruments to satisfy requirements at all times, as well as arrange an information system to facilitate measurement and evaluation, and 4) update measurement and assessment criteria to meet Ministry of Education standards. Community leaders, parents, or professionals in the field of measurement and evaluation

should be included in the measurement and assessment, which should be based on actual situations. This is compatible with three assessment frameworks in the OECD Mathematics Assessment Framework (: (2013) process, content, and context.

Recommendations

1. The suggestions for learning management to enhance mathematical literacy include the following:
 - 1.1 Teaching media should have tangible qualities that are appropriate for the growth of learners. Interestingly, learning may be structured by encouraging students to think and daring to answer questions in a way that motivates students to desire to answer questions.
 - 1.2 Learning management should be as adaptable as possible to allow teachers to organize a variety of activities. According to the notion of Active Learning, learners should be taught to act and apply their cognitive processes.
 - 1.3 In terms of behavior and learning management, instructional management should be flexible and suitable in terms of integration and usage, and it should foster critical thinking.
2. Suggestions for the next research are as follows:
 - 2.1 The study of elements influencing scientific literacy, linguistic literacy, and good mathematical literacy focuses on learning management. Guidelines principles for educational management.
 - 2.2 The education in teaching-learning management via the use of technology or innovations, as well as teaching media, to organize learning activities that are appropriate for the content level of the class and should be studied in the context of various learners.

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