

An Effect of the Learning Environment Management System toward Student Quality of Thai Secondary School

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Abstract

This study aimed at 1) investigating the element of the learning environment management system in the secondary schools, 2) exploring the current states and problems of the system on the learning environment management in the secondary schools, 3) designing the learning environment management system for the secondary schools, and 4) identifying the effects of the learning environment management system at the secondary schools. This research was the research and development (R&D). Tools employed in this study consisted of: a questionnaire, a form of opinion expression of the scholars, a form of interview, a form of system evaluation as well, a form of satisfaction evaluation. Data were analyzed by percentage, mean and standard deviation. The findings were as follows: 1) The components of the learning environment management system on outputs included: school policies, personnel, budget, materials used in the application, management as well as participation. On process, there were: environment inside classroom, environment outside classroom, information technology, class atmosphere, creation of learning and instruction and curriculum.

The outputs comprised: an increase in the learners' leaning achievement, eagerness to learn among the learners, learning resources conducive to learning of the learners, teachers' and school administrators' satisfaction as well as interaction between the teachers and learners. The feedback consisted of a report on the effects and recommendations to those concerned, application of evaluation results to be improved based on recommendations. 2) The current states of the learning environment management system in the secondary schools were at the high level while the problems of the application were at the moderate level. 3) The system of the learning environment management in the secondary schools comprised 6 sub-factors including: inside classroom environment, outside classroom environment, information technology, classroom atmosphere, creation of learning, and instruction and curriculum. 4) The effects of the system application revealed that the teachers obtained interaction with the learners at the high level. More learning resources were added to the schools. The learners gained the higher learning achievement. The school administrators and teachers were satisfied with the system on the learning environment management in the secondary schools.

Keywords: learning environment, learning environment management system, students quality, Thai secondary school

1. Introduction

1.1 Introduce the Problem

In the present time, there have been many rapid changes in various aspects. Caused by the progress of science and technology, significant factors in developing human capital to become human resources with the capacity of abilities in leading the nation toward progress and stability refer to education which is regarded as a significant process in developing humans with quality. In order to achieve the society of wisdom and learning, there should be a quality system in education as well as educational management. The components of the system and system management as well are composed of 1) inputs, 2) transformation, 3) outputs, and 4) feedback (Buriphakdi, 2008) including: 1) system investigation, 2) system analysis, 3) system design, 4) system implementation, and 5) system maintenance and review (Stair & Ralph, 1996). A school is regarded as a system with following components: 1) inputs comprising environmental constraints, human resource and capital, mission and board

policy, materials and methods, and equipment; 2) transformation process consisting of the structural system, cultural system, political system and individual system; 3) outputs including achievements, job satisfaction, absenteeism, dropout rate and overall quality; and 4) environment referring to those outside the organizations such as various resources, values, technology, needs as well as history. Hoy and Miskel (2008), which can be regarded as forces to drive school development to achieve the goals set and can be able to develop learners in terms of physique, intellectual, knowledge and morality making learners develop themselves, and see-through the global changes as well. The creation of the said characteristics has to be based on personnel and agencies on education management significantly. The problems on the Thai educational system include administration and management. The factors contributing to organizational effectiveness are 1) organizational characteristics, 2) environmental characteristics, 3) employee characteristics, and management policies and practices (Steer, 1977). The efficient management can be evaluated from the school effectiveness comprising: 1) curriculum, 2) decision making, 3) resources, 4) leadership, 5) atmosphere and outputs (Caldwell & Spinks, 1990). These should be implemented in order to achieve the organizational objectives including: planning, organizing, leading, and controlling (Wehrich & Koontz, 1993). The circuit to control PDCA is composed of: Plan-P, Do-D, Check-C and Act-A (Deming, 1991).

The quality of basic education of Thailand is at the low level. This can be observed through the results of the ONET of the Office of the National Test and Evaluation that has measured the learning achievements of learners at the levels of Elementary Grades 6, Middle School Grades 9 and High School Grades 12 in the 8 learning substances (The Office of the Monitoring and Evaluation of the Basic Education, 2010). The learning environment management allows learners to learn happily in classroom of hygienic, well-lighted, clean, quiet, well-ventilated, fully-equipped features with quality and support. The good atmosphere in classroom affects positive development procedure on learners making learners learn with happiness, intention and enthusiasm. The process of the classroom environment development comprises environment inside classroom, environment outside classroom, architectural design, engineering design, information technology, classroom atmosphere, knowledge building, classroom management, instruction and curriculum, evaluation of learners, teachers' knowledge and skills, interaction creation (O'Mara, 2012; Pearlman, 2009; Fisher, 2005; Blackmore, 2012). The environment management suitable for learners' age and educational levels is the thing that is supportive to make learners feel like learning with more efficiency. The learning environment supporting and facilitating learning e.g. facilitating classroom, fully-equipped classroom make learners happy in learning. The teachers are happy in teaching because of things facilitated and supported toward instruction to be calm, facilitating, and rapid as planned. The learning environment management supports learning in various ways e.g. making learners impressive, motivating learners interested in and generating motivation in learning, changing attitudes to positive ones, gaining learning satisfaction, and helping obtain learning achievements. The main factor in the learning process is the feeling originated from learners, feelings, satisfaction, interests, eagerness to learn, being the catalysts toward efficient learning. However, the results of the third round of the external quality assurance in the level of basic education in 7,024 secondary schools around the country showed that only 4,023 schools were approved by The Office for National Education Standard Quality Assessment. In case of Indicator 5-*Learner's Learning Achievements*- most of the schools were assured at the satisfactory level. Indicator 6-*Effectiveness of the Learning Management on the Learner-centered Approach* and Indicator 12-*Effects of Promotion on School Development to Upgrade Standards and Development toward Excellence in Accordance with the Trends of Education Reform* (The Office of the Basic Education Commission (OBEC), 2011). Regarding the said effects of evaluation, the schools have to be developed wholly to uplift levels of learning achievements. One of the factors affecting the upgrade of learning achievement level is the learning environment. When in the good environment states, learners can change their own behaviors in accordance with the learning environment management. Because learners have to spend their time in school at least 30 hours a week, teachers use classroom as a central source in managing experience for learners.

1.2 Exploration of the Importance of the Problem

Thus, the environment management conducive to learners' learning as well as teaching of teachers regarded as the main issues in creating leaning efficiency for learners. Regarding the literature review on school environment e.g. Washor (2003), Fisher (2005), Hoksuan (2005), Phromwong (2008) revealed that the school environment states include: 1) physical environment comprising concrete man-made environment such as location, tables, chairs, materials, and teaching equipment; 2) relative environment affecting feelings, spiritual, attitudes on learning toward instruction dividing into 2 components: factors on learners: personality, learners' behaviors, and levels of intellectual; factors on teachers: personality and behaviors of teachers, knowledge and experience, teaching methods or techniques, environment originated from interaction between individuals e.g. relationship

between learners and learners or learners and teachers including rules and regulations of school, building of classroom atmosphere, motivation building etc.

According to the said reasons, it is essential to develop the learning environment management system for the secondary schools. The researcher pays attention to the investigation and development of the learning environment management system in the secondary schools. Ideas, theories concerning the development of the learning environment management in terms of physical and relative aspects, efficient management have been applied as guidelines of development of the learning environment management that can be used to develop learners to obtain quality based on the national standards.

1.3 Objectives of the Research

- 1) What are components of the learning environment management system in the secondary schools?
- 2) What are current states and problems of the learning environment management system for the secondary schools?
- 3) What should be the learning environment management system in the secondary schools?
- 4) What are results of applying the learning environment management system in the secondary schools?

2. Methodology

In case of the system on the learning environment management in the secondary schools, the researcher employed what in terms of research and development through qualitative and quantitative data collection. This study was divided into 4 stages as follows:

2.1 Stage I

Exploration of components of the learning environment management for the secondary schools:

- 1) Investigate ideas, theories and documents concerned e.g. learning environment, administration and management, principles of educational administration, basic educational management in accordance with the National Educational Act AD 1999 along with Amendment (2nd Edition) AD 2002 followed by the synthesis as a framework for this study.
- 2) Identify components of the system on the learning environment management for the secondary schools in order to obtain the components of the learning environment management in the secondary schools.
- 3) Designate the framework of the study.
- 4) Check the components of the learning environment management system for the secondary schools by 9 scholars to evaluate the consistency of the components.

2.2 Stage II

Identification of the current states and problems of the learning environment management system for the secondary schools along with an analysis of the current states and problems using statistics as follows:

- 1) Survey the current states and problems of the learning environment management system in the secondary schools.
 - a) The population included school administrators and teachers in the secondary schools under OBEC from 2,117 schools (Office of the Secondary Education Management, 2013).
 - b) The sampling group consisted of 344 school administrators, 344 teachers from 344 schools selected.

The sampling group selection was done as follows:

- 2) The designation of the sample size was calculated by Yamane's formula (Yamane, 1973) regarding this study, the researcher designated reliability of 85 percent and discrimination accepted at 5 percent. The sampling group calculated comprised 366 persons. However, data were collected in a number of 344 schools administrators and 344 teachers because there should be more samples beyond expectation.
- 3) The method of random sampling was done through multi-stage random sampling technique as follows:
 - a) The schools were classified into geographical locations covering 5 regions of Thailand; namely, the North, the Central region, the East and the West, the Northeast and the South- a total of 2,117 schools.
 - b) The random sampling was done proportionally using simple random sampling through the drawing lot.

The schools selected included 344 schools along with 344 school administrators and 344 teachers as shown in Table 1.

Table 1. A number of school administrators and teachers as samples

Region	Amount of Schools	Samples	
		School Administrators	Teachers
The North	411	67	67
The South	313	51	51
The East and the West	328	53	53
The Central Region	221	36	36
The Northeast	854	137	137
Total	2,117	344	344

Note. The sampling group used in this study consisted of 344 school administrators and 344 teachers from 344 schools altogether.

2.3 Stage III

The design of the learning environment management for the secondary schools:

- 1) Determine 3 schools with best practice on the learning environment management system using purposive sampling technique including following criteria:
 - a) Being secondary schools or alternative schools with distinction or else renowned nation-class private schools.
 - b) Obtaining high learning achievements or passing the assurance in the third round by The Office for National Education Standards and Quality Assessment (ONESQA).
 - c) Being outstanding secondary schools with royal rewards/medals or else schools of region-or nation-class achievements.
- 2) Draft the system and a manual of the system on the learning environment management in the secondary schools with the following steps:
 - a) Synthesize data obtained from investigation of principles, ideas, theories and literature review as well on the learning environment management system.
 - b) Bring data collected on current states and problems of the system of the learning environment management for the secondary schools as well as the schools of best practice to be considered on the design of the system and the manual on the learning environment system for the secondary schools.
- 3) Check the system draft and manual developed by the scholars.
 - a) Bring the draft of the learning environment management system for the secondary schools as well as the manual of the application of the draft to the advisory committee of dissertation for the checking before the improvement or recommendations by the committee.
 - b) Take the draft of the system on the learning environment management and the manual to the 9 scholars to check for suitability and possibility. The qualifications of the scholars include holding a doctoral degree with the faculty rank of assistant professor up or teachers/educational personnel of expert level with administrative experience at offices of basic education of 10 years at least or 10 years of teaching in the field of educational administration at the university level. In addition, he/she is an executive or ex-executive in education administration and management.
 - c) The researcher has improved this work according to the ideas and recommendations of the scholars up to get the system of the learning environment management for the secondary schools as well as the manual of the draft for the secondary schools to be used in the schools.
- 4) Instruments used in the evaluation system were divided into 2 stages:
 - a) STAGE I: A questionnaire on suitability and possibility of the learning environment management system for the secondary schools. It was a 3-level rating scale questionnaire as Appropriate, Not quite sure, Not appropriate.
 - b) STAGE II: An open-ended question for the scholars to write their recommendations as well as issues on the improvement of the manual on the application of the learning environment management system for the secondary schools.

5) The building of the model on the system on the learning environment management for the secondary schools was conducted as follows:

- a) Explore principles and techniques of a form of evaluation.
- b) Draft a form of evaluation on the learning environment management system for the secondary schools.
- c) Submit the form of evaluation on the system of the learning environment management for the secondary schools to the advisory committee of dissertation for the checking, recommendations and correction as well.
- d) Present the research to the same scholars to consider and it would be improved before the publication in order to collect data.

6) Organization and data analysis

- a) Application of data done by the checking of evaluation scores on the system by the scholars from the obtained scores in the levels of Suitability (+1), Possibility (0), Impossibility (-1)
- b) Regarding the data analysis through IOC, it was found that the values of IOC were 0.50-1 which could be concluded that every item was suitable (Criteria of appropriateness of IOC were 0.50 up.)

2.4 Stage IV

The application of the system on the learning environment was followed by the evaluation of application.

- 1) Apply the system on the learning environment management developed to be used in a school selected.
- 2) Evaluate the application of the system.

3. Results of the study

1) The components of the learning environment management system in the secondary schools in terms of the physical features included 6 factors: 1) environment inside classroom, 2) environment outside classroom, 3) information technology, 4) class atmosphere, 5) learning creation, and 6) instruction and curriculum.

2) The current states and problems of the learning environment management for the secondary schools as shown in Table 2.

Table 2. Mean and standard deviation of the current states and problems in the secondary schools

Item	Current States and Problems of the Learning Environment Management	Current States			Problems		
		\bar{X}	S.D.	Interpretation	\bar{X}	S.D.	Interpretation
1	Inputs	4.04	0.51	High	2.94	0.33	Moderate
2	Process	3.93	0.57	High	2.94	0.33	Moderate
3	Outputs	3.99	0.50	High	2.90	0.42	Moderate
4	Feedback	4.01	0.63	High	2.59	0.65	Moderate
	Total	3.99	0.55	High	2.84	0.43	Moderate

Note. $\bar{X} = 4.51-5.00$, Performance Level (PL) = Highest, $\bar{X} = 3.51-4.50$, PL = High, $\bar{X} = 2.51-3.50$, PL = Moderate, $\bar{X} = 1.51-2.50$, PL = Low, $\bar{X} = 1.00-1.50$, PL = Least.

From Table 2, it was found that when separately considered, the current states of the learning environment management system in the secondary schools were at the high level in every aspect. The problems on the learning environment management system in the secondary schools, in general, were at the moderate level. When each aspect was considered, it was determined that the aspects with most problems included: inputs, process, outputs and feedback respectively.

3) The system on the learning environment management in the secondary schools comprised 4 aspects as follows:

- a) The inputs were composed of school policies, personnel, budgeting, materials used for application, management and participation.
- b) The process included 6 following secondary-components: environment inside classroom, environment outside

classroom, information technology, class atmosphere, learning creation as well as instruction and curriculum.

c) The outputs comprised: higher learning achievement among learners, learners with eagerness to learn together with learning resources conducive to learners' learning, teachers' and school administrators' satisfaction as well as interaction between learners and teachers.

d) In case of feedback, it was found that it consisted of report and recommendations to those concerned and the application of the effects to be improved as recommendations.

The system on the learning environment management in the secondary schools was shown in Figure 1.

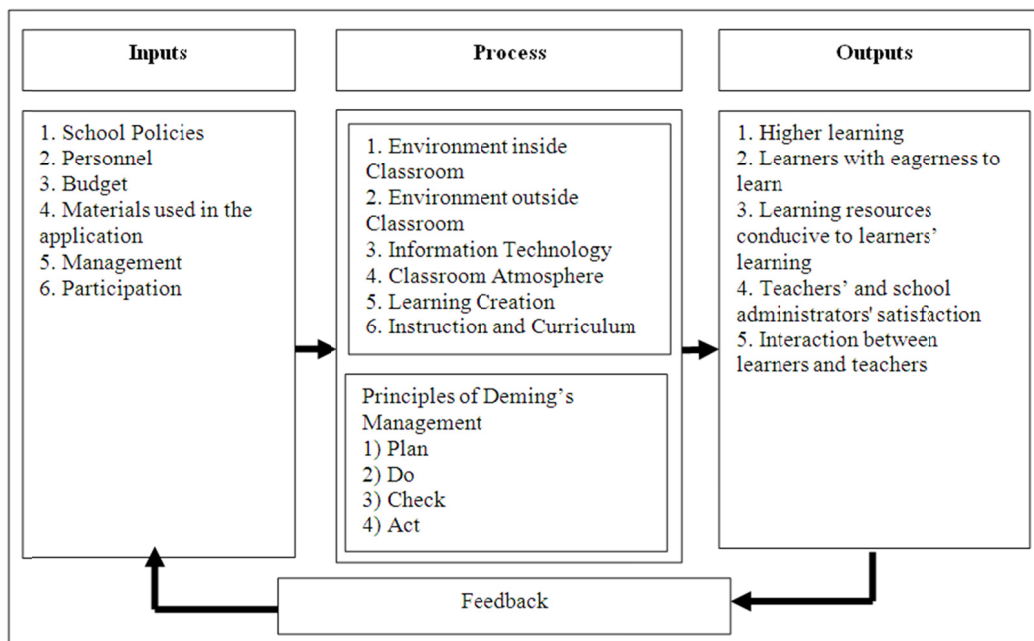


Figure 1. The learning environment management system for the secondary schools

The results of the application of the learning environment management system according to a study revealed that the system developed was appropriate from data synthesis, interviews, opinions, and understanding among the school administrators and teachers before and after the application along with the results obtained from levels of practice. These can be significantly classified as follows:

3.1 The Environment inside Classroom

1) Before applying the system, the classrooms were not clean. The management of classroom was not flexible. The ventilation was not enough. The room was not well-lighted. There was sound pollution while teaching and air pollution existed in forms of bad smell.

2) After the application, there were 5S activities to help develop the classroom environment such as the renovation of chairs by repainting. The corners in classroom were well-organized. The classroom was clean and flexible. The classroom could be changed to suit the needs of the teachers and learners. The ventilation was quite ample and well-lighted. There were no sound and air pollution any more.

3.2 The Environment outside Classroom

1) Before the application, the learning resources were not ample to the needs of the teachers and learners as well. The budget used in managing the learning resources was limited. Some learning resources were not used suitably and often. The existing learning resources were not consistent with the learning substances required to study and they lacked efficiency.

2) After the application, the development and use of the learning resources increased. There was the development of the outside resources to become the additional learning resources. The classroom corners were added to a greater degree. There was a room of modern media furnished with modern technology equipment to be used for additional learning. There was a systematic schedule of the use of the existing learning resources. The existing

learning resources were diverse and conducive to a better learning affecting the benefits of the learners from the learning resources where learners could search for knowledge any time.

3.3 Information Technology

1) Before applying the system, it was found that the information technology was at the low level. The information technology media were at the limited number. The out-of-date teaching materials were dull. The use of information technology was not consistent with the subject contents and without the systematic keeping system.

2) After the application, the use of information technology in teaching was added. The information technology seemed to be more modern and ample for use both inside and outside classroom. There was an analysis on the use of media and technology for instruction. There was the provision of media and information technology to be used in instruction. There was also a promotion for the teachers in producing instructional innovation. The development and use of innovative media along with the information technology for instruction were implemented. The use of media and information technology in instruction was suitable for the learning groups together with the development evaluation in the use of innovative media and information technology for instruction.

3.4 Class Atmosphere

1) Before the application, there was a lack of collaborative learning atmosphere between the teachers and learners in forms of amicable learning. The lack of respect for one another between the teachers and learners existed. The unequal teaching seemed to be observed. There were inequality and division of levels of the learners. In addition, there was also a lack of individual development among the learners.

2) After the application, there was an amicable relationship between the teachers and learners. The teaching was regarded as equal without the division of the learners' levels. There was an individual development.

3.5 Creation of Learning

1) Before the application, there was an understanding based on the overall feature of learning process that should be included e.g. lesson plans, instructional media, measurement, and evaluation. Each teacher implemented the learning process based on his/her methods/techniques. The learning process was done based on the learners' contexts and classroom. The teaching process was broad without any specific frames or contents. The teachers taught by using textbooks rather than the lesson plans. If there were some lesson plans prepared beforehand, they were used just in some subjects only, that is, they were not used seriously.

2) After the application, it was determined that there was the teaching based on some indicators. The teachers conducted the learning process consistent with the learners' interests and expertise. There was a development of both teachers and learners in order to gain continual learning. The supervision with a focus on the amicable assistance was implemented. The lesson plans and application for learning management were applied seriously. The learning implementation was done based on the lesson plans prepared. The learning process was focused on the learner-centered approach. There were techniques or methods or innovation suitable for the nature of learning substances. The diverse learning resources both inside and outside classroom were used to provide the learners to learn by themselves.

3.6 Instruction and Curriculum

1) Before applying the application, there was the learning management in accordance with the Core Curriculum of the Basic Education AD 2008 along with school curriculum but they were not used seriously in the instructional process. The curriculum was understood broadly not specifically. The measurement and evaluation were done based on the curriculum on the learning substances in each semester followed by report upon the roles designated by agencies. The evaluation was also done through tests only. There were tests based on the learners' performance but the measurement seemed to be ambiguous, not clear enough. The measurement was not diverse. The contents were not covered by evaluation based on the curriculum.

2) After applying the system, there was a better understanding on the curriculum and it could be used consistently with the school context. The curriculum along with the indicators was significant. The development and application of the curriculum were used in order to develop the efficiency of learning. The measurement and evaluation as well as transfer of credit were significant. There was a system of the teachers in charge of academic affairs to help other teachers in each classroom and assist them in making tests and experience systematically. The measurement and evaluation covered the contents based on the curriculum. There was an authentic

measurement and evaluation through diverse equipment suitable for the learners and each learning substance. There was also an analysis on learning effects to be applied to improve the methods of teaching up to a better level.

4. The Results of the Learning Environment Management for the Secondary Schools Applied

The learners gained higher learning achievement observed from average scores of the final examinations of the learners calculated from all 8 learning substances as shown in Table 3. A tool used was a form of learning achievements. .

Table 3. Mean of learning achievement of the students in Middle School Grades 8

Learning Substance	Before		After	
	Scores \bar{X}	Number of attendants	Scores \bar{X}	Number of attendants
Thai	41.38	210	72.22	196
Social Studies	49.54	210	72.89	196
English	24.04	210	59.72	196
Mathematics	45.77	210	59.44	196
Science	37.31	210	65.00	196
Health and Physical Education	55.71	210	78.89	196
Art	45.77	210	76.11	196
Career and Technology	55.08	210	86.44	196
Total	44.32	210	71.33	196

Note. According to Table 3, it was found that the average scores of learning achievement of the learners in Middle School Grades 8 in all learning substances were high.

The learners obtained eagerness to learn according to the focus group, learners' behavior observation, and the increase in the use of laboratories. The learners gained intention, tolerance in learning and attendance in learning activities, participation in school activities, search for knowledge from the learning resources inside the schools, search for data by themselves, and seeking for knowledge from leaning resources provided by the schools as well. The learners used the media provided by the schools at the higher degree.

The teachers' and school administrator s' satisfaction indicated that both teachers and school administrators gained satisfaction at the high level. When separately considered, it was found that the inputs, process, feedback and outputs generated satisfaction in every aspect.

The learning resources conducive to the learners 'learning from the focus group revealed that the learning resources both inside and outside classroom were provided. This made the learners be able to study by themselves. The schools provided diverse learning resources both inside and outside classroom. There were also media from the Internet as well as modern instructional media together with a computer room equipped with more sets of computer.

The interaction between the teachers and learners according to the focus group was creative including experience exchange leading to learning cooperation, participation in applying interaction that allowed trust to happen.

5. Conclusions

The effects of the development of the learning environment in the secondary schools obtained main issues for discussion as follows:

The factors of the states of the learning environment consisted of 6 factors: environment inside classroom, environment outside classroom, information technology, and class atmosphere, creation of learning as well as instruction and curriculum. These factors in the secondary schools refer to the integration of knowledge in science and social sciences mixed together which is consistent with guidelines of educational management and agencies concerned implement to allow the learners to obtain educational services through 1) studying contents and activities consistent with the interests and expertise of individuals, 2) practicing skills to solve problems encountered, 3) learning from direct experience, practical training to be " thinkable and practicable" along with

having a reading habit and creation of continual eagerness to learn, 4) learning in forms of integration of various bodies of knowledge proportionally together with the cultivation of morality, good values, desirable characteristics in every learning substance or every subject learned, 5) learning through the atmosphere provided, environment, instructional materials and facilities in order to make the learners obtain learning, omniscient knowledge along with being able to apply the research as a part of the learning process.

The teachers and learners can learn together side by side from instructional media and various sources of resource persons, 6) learning everywhere and every time by cooperating with parents/guardians and personnel in communities in order to develop their own capacities (The Ministry of Education, 2011) consistent with the idea of McVey (McVey, 1989) who got the idea on the learning environment as saying “The physical learning environment comprises: light, color, sound, space, furniture and characteristics of places used to learn in.” The abstract environment or psychological environment refers to the classroom atmosphere which is consistent with the study of Warakham (2011) who said that the learning environment management included: learning management as well as the services provided to support academic affairs that would make learners gain knowledge and experience at best under the lively and lovely atmosphere. The indicators concerning the academic environment consist of: teachers, teaching staff eager and enthusiastic to encourage learners to gain learning by developing themselves with responsibility and social responsibility as well. They, the teachers, can seek for techniques or learning processes suitable for learners to enhance and change methods of teaching in order to reduce boredom among learners. The learning environment refers to any conditions, situations or states affecting learning process and learning resources conducive to support learning as well as the application of innovation to be applied in instruction and the relationship between learners and teachers, and school administrators as well. The environment should be implemented to suit learners.

The current states and problems of the learning environment management in the secondary schools indicated that the overall states of the current learning environment management application for the secondary schools were at the high level.

This might be because of the difference of the school contexts. The budget allocated used to support education in each school provided by the government as a stipend for each learner in each school is quite different. This is consistent with the study of Thongsanthia (1997) who investigated a case study of the application on the campaign activity and preservation of environment in the school under the Department of General Education at Non Phek Witthayakhom School, Phayu Sub-district, Si Sa Ket in the Office of Si Sa Ket Educational Service Area 1 found that the school administrators played an important role in managing the school environment at the high level. In addition, the guidelines and recommendations on good management in order to achieve the goal set and ultimate benefits were included. Regarding the participation of every sector concerned with designated tasks, the physical environment would be of the ultimate benefits. This should be planned through the division of tasks and responsible organizations with significance.

The system on the learning environment management for the secondary schools based on a study revealed that the features on outputs included: school policies, personnel, budgeting, materials used in the application, management, and participation. The factors on process consisted of: environment inside classroom, environment outside classroom, information technology, class atmosphere, building of learning as well as instruction and curriculum. The factors on outputs comprised: an increase in learners' learning achievement, learners obtaining eagerness to learn, learning resources conducive to learners' learning, teachers' and school administrators' satisfaction, and interaction between teachers and learners as well. The factors on feedback were composed of: report and recommendations for those concerned, application of effects to be improved as recommendations. The system on the learning environment management in the secondary schools is consistent with the learner-centered approach which is regarded as a desirable learning process, an intellectual process for developing personnel or individuals continually, everywhere and every time. This is the learning process of happiness, integration of suitable contents for each educational level in order to gain knowledge about oneself along with the interaction with society. The subject contents are consistent with learners' interests in forms of thinking process together with actual practices on authentic situations. The knowledge gained can be applied as a profit. It is the process of alternation along with diverse, interesting learning resources. It is the process of collaborative learning with learners, teachers, and those concerned to conduct the atmosphere that is conducive to learning and focuses on the benefits of learners in order to make learners good, smart and happy (Winitchaikun, 2009). The learning environment management system for the schools along with the application of knowledge in science is integrated with relative integration to make the system perfect. This is consistent with the study by Anne-Cloonan et al (2010) who investigated Bendigo NET School found that the school achievement relied on the teachers' roles in using teaching techniques by dividing the learners into small groups in order to be easy to control the learning

process. The teachers' roles included: support for learning both in practice and academic affairs by laying the roles of those who were in charge of teaching through natural methods with flexibility. They developed the classroom to be learning resource to serve the learning individual difference as well as interests. In the implementation of the tasks, it reflected the needs and interests of the learners. A new and different method of teaching was used for each learner. The supportive systems of learning presented included: counseling. An amazing indicator of the school achievement was a part of practice regarded as new innovation implemented by the school. There were individual lesson plans based on the school framework. The 21st century learning environment stated that the guidelines for developing the learning environment was to terminate psychological various problems found in the teachers characteristics in terms of the implementation of instructional process and relationship (teachers, educational personnel, parents/guardians, and communities).

This was regarded as the application of the learning environment management system for the secondary schools to be applied for solving the problems in the schools with the participation between the teachers and learners. There was also a sharing of tasks or duties with significance. The tasks were divided into steps with the checking, and control of the quality during the process. The application of the system was consistent with the study of Bloom (1976) who studied the learning project for well-rounded knowledge indicated that the significant variables affecting the learners' learning included: 1) Readiness of clearness consisting of: fundamental knowledge, learning experience along with readiness in terms of perception toward learning including interests, attitudes toward subjects learned as well as personality, 2) Readiness of teachers comprised: preparation of teaching, methods of teaching, explanation of teachers, evaluation of faults together with giving the feedback, 3) instructional environment as a result of the interaction between the teachers and learners in order to build the atmosphere conducive to instruction. The outputs factors comprised: an increase in learning achievement of the learners. In addition, it was determined that the factors affecting the learning achievement both directly and indirectly included: learning attitudes, achievement motivation, characteristics of colleagues as well as the academic atmosphere in the institutions, teaching quality, learning behaviors, passion, and job satisfaction as well. This is consistent with the idea of Shorten, Wallace and Crookes (2001) who investigated that the curriculum provided obtained learning skills, information that would add abilities to the application of it. Thus, educational institutions should conduct systematic instruction along with readiness, preparation among the teachers, learners, curriculum, learning environment to be ready and ample in forms of buildings or physical plants, classrooms, utensils, materials, equipment, instructional media that were to support the learners to gain good knowledge, satisfaction as well as eagerness to learn. This is also consistent with the study of Anne-Cloonan et al (2010) who explored the school environment management in a primary school in a suburb of Hillton in Geelong. The school communities of Ballarat School were proud of the school as the leading school on educational innovation. Moreover, the students of the school took pride in it because it was a small school. The learning for the 21st century learner environments was a drive as a prototype for the change in the school. The learning culture which was considered private offered through the flexible learning in the open-air environment regarded as the focal point of the learning environment of the modern innovation of Ballarat School.

In addition, this is consistent with the study of Aphinya (2009) who concluded that the learning achievement was the result of learning management. The teaching was related to many factors in terms of learners, teachers, learning activities, teaching, and school environment. In case of the states of learning management, the teaching methods that diverse to be conducted in the relaxed, free, and individual difference acceptance.

There were many types of learning that supported the learners to gain experience of achievement and self-development at ones' capacity. The important means included the learning that was surrounding, meaningful and useful. The learning activities should be diverse and equipped with interesting materials. Evaluation was based on the learners' potential individually. The interaction between the teachers and learners should be in forms of delicacy, amicableness, warmth, understanding and acceptance, encouragement and care. The learners should gain development of thinking, analysis, motivation, enthusiasm, eagerness to learn, interests in following up the lessons learned as well as search for continual knowledge to get an idea. The happy learning comprises the following components: creation of passion and faith, acceptance in values of learning, opening the door to nature, strive for constancy, maintenance of friendship as well as a balanced life. This idea is consistent with the study of Hongranai and Niramai (2012) who found that the factors that supported learning management most referred to physical environment of a university followed by modern teaching materials catching up with current events of the world. Thus, educational institutions should operate systematic teaching in order to make the institutions efficient. Preparation in forms of teachers, learners, curriculum, subject contents, learning activities, measurement and evaluation along with learning environment should be ample and ready. These included:

buildings or physical plants, premise, classrooms, utensils, materials, equipment, teaching materials, creation of academic atmosphere in school, knowledge enhancement as needed, counselors to support counseling and other activities provided to achieve the goal set as well as teachers, teaching staff in educational institutions. The awareness of feelings on happiness, or else satisfaction among learners affecting learners' behaviors to support learners to gain good learning in order to achieve better satisfaction and eagerness to learn should be included eventually.

7. Recommendations

7.1 Recommendations for this Study

- 1) The application of school environment should be systematic, well-planned with the making of a master plan in advance.
- 2) In case of the learning environment, the schools administrators and teachers should open their heart/mind to accept that the environment affects the learners to gain efficient learning including physical environment and relative environment that are consistent with the learners' potential development.
- 3) According to the learning environment management, the Government should allot ample budget for the implementation of the environment because some schools face the limitation on budget making them not be able to manage the ample and school-environment covered as planned.
- 4) In terms of the achievement evaluation on the systematic application, members of school committees as well as parents/guardians should be allowed to participate.

7.2 Recommendations for Further Study

- 1) There should be a study on the learning process management to upgrade learning achievements
- 2) The study of motivation based on the learning environment management affecting learning achievements of learners should be included.
- 3) An in-depth study on the learning environment in each aspect for the schools should be conducted.

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