

Developing of Leader Teachers Development Program in Learning Thai Management for Critical Thinking Of Students in the Secondary School under the Office 26 Area of the Basic Education Commission

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Abstract

The objectives of this research were: 1) to study the elements and indicators of Thai learning management for enhancing students' critical thinking of secondary schools under the Office of the Basic Education Commission, 2) to study current condition and desirable condition, 3) to create a Teacher Development program. The research findings were 1) the elements of Thai learning management were in the highest level, 2) the current condition was in high level and the desirable condition was in the highest level, 3) the teacher development program consisted of 1) rationale and approach, 2) objectives, 3) goals, 4) content and activities. The development was implemented by 4 steps; step 1) pre-development assessment, 2) development, 3) integration during working, 4) post-development assessment. Samples were 16 teachers' development program. Instruments were the developed program, manual program, quality evaluation, achievement test. The results found that the utility, the feasibility and the propriety were in the highest level, 4) the effectiveness of the program found 1) the efficiency of the process was 91.56/ 84.17, 2) the effectiveness after learning was 0.6228. The knowledge increased by 62.28%, 3) comparing the average after using the program was significantly higher significantly at .05 level. When assessing teachers' satisfaction with critical thinking development programs, it was at a high level and when considered individually found that teachers were mostly satisfied with the program clearly consistent with the objectives and the development program contained the development of critical thinking in learning activities, the teachers were satisfied at the highest level.

Keywords: Program development, Learning program, Action learning Enhancement student, Critical thinking,

Introduction

Knowledge is changeable due to the new explorer or it can be said that it is a dynamic. Learning in the 21st century also requires the learners change their mindset from learning by memorizing to learn by using critical and creative thinking. Moreover, the learners should have the necessary skills such as learning and innovative skills, information learning literacy and communication skills, and interpersonal skill. So, learning should give the opportunity

for the learners to from experience by exploring knowledge through the processes of analyzing, synthesizing, making decision, solving problem, and creating knowledge from integrating what have been found from both inside and outside classroom. The instruction should also be considered to be flipped from learning only in classroom to be allow learners for the self-study at home or outside classroom and the knowledge gained outside will be brought to the classroom for discussing and practicing with teacher.

Role of teachers in the learning in the 21st century must be changed (Brahmawong C.1994). The new teaching should be without knowledge provider, but the knowledge will occur from the activities of students such as using creative thinking in learning and learning cooperatively. The research and working scheme for the efficiency will not be considered only for changing, but they should be the changer for produce efficient leader of changing on action learning leading to the inside change which is more powerful. This will help improve the leader skill as the leader of changes who always be professional, learn for life long, and find the better teaching methods which is suitable for their own context.

Flipped classroom is the new teaching approach proposed by Jonathan and Aaron, Chemistry teachers of Woodland Park High School in the United States. This approach corresponds the learning in the 21st century focusing on teach less learn more principles which is opposite the current situation of classroom. The flipped classroom also stimulates the use of online learning, social media, information technology, multimedia, and activities at home to be performed in classroom which help increase the practice and interaction between teacher and students. This also focuses on self- knowledge acquiring based on their skills, knowledge, ability, and individual competency regarding their self-pace of learning through the experience of provided by the teacher via information technology and multimedia. This also be the learning from outside classroom with the independence of both thinking and practicing which is different from traditional learning called teachers-centered learning that teacher always provides knowledge and experience. For the 21st century learning, teachers and staff have to learn from doing, giving feedback, enlighten, being the leader of changes, self-learning, self-evaluating and improving, and team working.

The analysis of current context and desirable situations together with the need of critical thinking of students in secondary schools from the study of Suriya Senawong and Chalard Chantarasombat(2018) showed that there were 6 elements and 23 indicators of learning Thai management for enhancing the critical thinking (Chantarasombat C., and Sombatsakulkit E. 2021). Moreover, the results also revealed that there were the needs of the development of learning innovation including learning modules, online learning, and action learning. This corresponds with the 2nd announcement of the Office of the National Digital Economy and Society Commission in 2020 stating that there is the need of digital economy and society funds in 7 aspects. However, the researchers are interested in the 1 aspect which is Education Technology (EdTech) which focuses on applying digital technology in education for improving the efficiency and effectiveness in terms of developing the potential of educational staff on flipped classroom with the integration of Cloud.

Consequently, the integration of Google Classroom is the change of teachers' role from tutor to be coach who will initiate and create the amusement in learning as facilitator. There should be the improvement of teachers' potential of applying online learning in class through the use of G Suite for Education and Microsoft teams. The Google Classroom was, finally, selected for implementing in the Educational Administration for Borabue Teacher in

The Secondary Education Service Area Office 26 for organizing the new approach of teaching through the development of leader teacher development. This process was simultaneously done together with the learning and researching for improving the efficiency and effectiveness of innovation with the integration of teaching through the use of digital technology for improving the wisdom on living together happily.

Iterature review

Flipped classroom is the new techniques of learning management by Jonathan and Aaron, the chemistry teachers at Woodland Park High School in USA focuses on teach less learn more. Flipped classroom comprises online learning, online media, information technology, various communication, and doing activities in classroom. These support learners to practices in class. Moreover, they can have interaction with peer and teachers for creating self-knowledge and individualized competency through self-paced. In 21st century, teachers, lecturers, and educational personnel must learn by doing, thinking, leading themselves to be leaders of changing, directing self-learning, assessing and improving how to learn, and learning in team. Regarding to the study of developing teaching capacity in the project of increasing the learning achievement in the Northeastern of Thailand, Office of the Basic Education Commission by Chalard chantarasombat, Nothai Udombunyanupab, and Norachai Kenchaiyawong (2018, p. 54-69), they divided their research into 3 levels: 1) developing , creating, defining objectives, and creating instruments, 2) studying theories 24 hours and training by doing 66 hours, and 3) increasing the learning achievement of the target groups since the pretest, during the process, and the posttest.

The conditions, problems, requirements and plans for learning management of in the project of reformation on learning to learners which focusing of innovation for achieving learning until the project of achieving learning of 9 educational institutes was occurred. Therefore, it was agreement between developers, schools' directors, supervisors, and education administrators which made the Memorandum of Understanding or MOU from 3 teachers/school in the main subjects by Chantarasombat's (2020) using the development program in advising and instructing. Three teachers from the main subjects were assigned to advice and instruct each other which lead to have the Professional Learning Community (PLC) from the supports of schools' directors, supervisors, and the guarantee from the education administrators. This shown the continuous processes till the beginning to the end of the project as follow: there were 4 steps for every school in developing innovation for achieving learning of educational institutes with applying of the Educational Supervision Clinique (ESC) in advising and instructing; studying lesson plans, defining objectives, teaching, and observing. This made the participation between the institutes' staff and the outsider and there was a revision for achieving the knowledge of lesson plans in order to use in the same level which affected to the leader teachers to gain more confident in making the connection, creating open classroom, working in group, and having the Professional Learning Community (PLC); the schools studied the results of using the Educational Supervision Clinique by learning through the institutes focusing on learning in 21st century which teachers learnt from students, teachers learnt from teachers, administrators, and the outsider, such supervisors who observed at Ban Kam Bong School 1 under the Office of Mukdaharn Primary Education Service. The result shown that after observation, the leading teachers, developers, administrators had achieved the knowledge for their schools in order to be the Professional Learning Community (PLC); the schools had been developed the system of advising and instructing. The leaders developed students

in the revolution project focusing on the innovation for achieving students' learning which teachers learnt from students, teachers learnt from teachers, and administrators from 5 main subjects in grade 1-3 of every sample groups.

The analysis of current context and desirable situations together with the need of critical thinking of students in secondary schools from the study of Senawong and Chantarasombat's (2019) showed that there were 6 elements and 23 indicators of learning Thai management for enhancing the critical thinking. Moreover, the results also revealed that there were the needs of the development of learning innovation including learning modules, online learning, and action learning. This corresponds with the 2nd announcement of the Office of the National Digital Economy and Society Commission in 2020 stating that there is the need of digital economy and society funds in 7 aspects. However, the researchers are interested in the 1 aspect which is Education Technology (EdTech) which focuses on applying digital technology in education for improving the efficiency and effectiveness in terms of developing the potential of educational staff on flipped classroom with the integration of Cloud. Consequently, the integration of Google Classroom is the change of teachers' role from tutor to be coach who will initiate and create the amusement in learning as facilitator. There should be the improvement of teachers' potential of applying online learning in class through the use of G Suite for Education and Microsoft teams. The Google Classroom was, finally, selected for implementing in the Educational Administration Seminar course (ED8013302) for organizing the new approach of teaching through the development of leader teacher development by Chantarasombat & Rooyuneyong (2020) and the same the Google Classroom was, finally, selected for implementing in the Educational Administration and Leadership course (ED41212) for organizing the new approach of teaching through the development of leader teacher development for students by Chantarasombat & Sombatsakulkit (2021). This process was simultaneously done together with the learning and researching for improving the efficiency and effectiveness of innovation with the integration of teaching though the use of digital technology for improving the wisdom on living together happily.

The conceptual framework of the leader teacher development program in learning Thai management for enhancing critical thinking of students in secondary schools for Borabue Teacher in The Secondary Education Service Area Office 26. The development procedures of the learning program on the leader teacher development program in learning Thai management for enhancing critical thinking of students in secondary schools for Borabue Teacher Under the jurisdiction were as follow:

The researchers participated in developing strategies, planning for development, and creating the developed program for Borabue Teacher in The Secondary Education Service Area Office 26., MahaSarakham, Thailand.

The researchers studied the concepts, theories, related principles, policies, strategic and strategies of education administration, and the educational reform in the 21st century for specifying the content and innovation to improve the learning achievement of schools. Moreover, the survey of learning resources for excellence was done based on the theory of educational quality development in 21st century. The development of leader by supervising and teaching, creation and development of professional learning community (PLC), supervision for excellence (Educational Supervision Clinique the Route to Excellence: ESC, Wales Deanery) concepts and theory of supervision for excellence of Chalard Chantarasombat Wales and Nothai Udombunyanupab, school is professional learning community of Blue, and opened-classroom of Dudley cited in Chalard Chantarasombat (2021), Chalard Chantarasombat and Patcharapong Ponzue (2022).

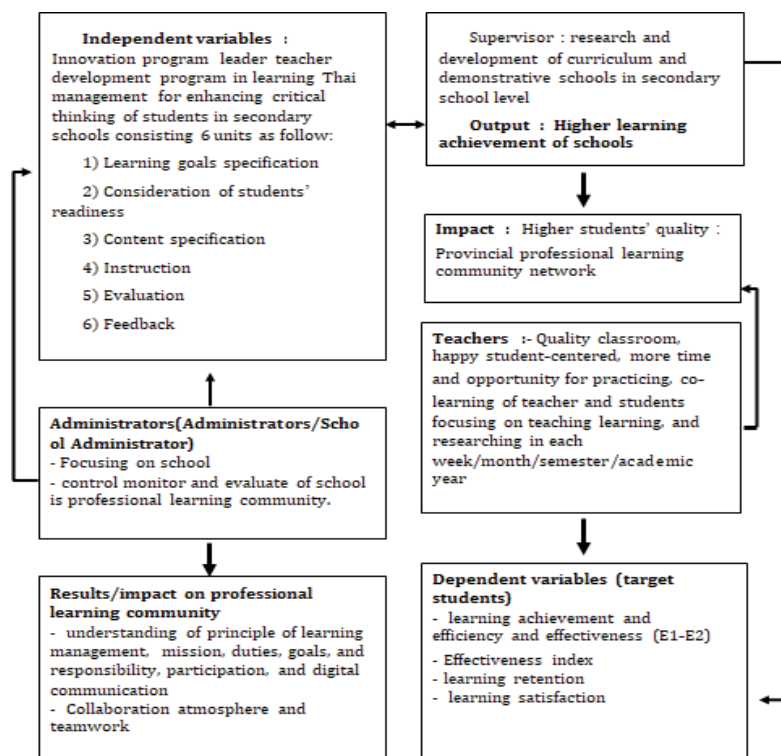


Figure 1. *The conceptual framework of the leader teacher development program in learning Thai management for enhancing critical thinking of students in secondary schools*

The researchers created and developed the program for teachers including Unit 1 on learning goals, knowledge, theory, and principles of administration and development, Unit 2 on Classroom administration in the 21st Century, Unit 3 on educational reform skill and academic leadership of educational institutes, Unit 4 on Schools and administrators and instruction, Unit 5 on the creation of innovation, evaluation, Unit 6 on feedback and learning community respectively.

Research Methodology

Participants are 16 teachers of all learning departments who are a full-time teacher in primary and secondary levels, and wish to find a solution to the problem of their students' learning achievement. Then, they apply to join the innovation project to enhance learning achievement of educational institutions, The network Sahavitaya Borabue group, under the office 26 of the basic education commission. . Data Collection are divided into 4 stages as follows: Stage 1, curriculum development, creating and defining goals and tools for developing full-time teachers, with preparation as follows: (1) Jointly formulate development issues; (2) Studying concepts, theories, and principles related to innovation to enhance the learning achievement of educational institutions and explore learning resources of excellent practice; (3) Creating and developing the innovation to enhance learning achievement of educational institutions (4) Developing study were program or module, google classroom :1) Learning goal specification 2) Consideration of students' readiness 3) Content specification 4) Instruction 5) Evaluation 6) Feedback, and school community, symposium or workshop and researching effectively. Followed by Stage 2, it is operating to develop the potential of full-time teachers, with Phase :1Theoretical section (24hours), which are clarifying the project, collecting theoretical knowledge of the participants by pre and post tests for learning achievement, organizing the training workshop for full-time teachers, and providing post-test. Stage 3 refers to operating to develop the potential of full-time teachers, with Phase 2 : Practical section (68

hours), which are studying the current condition of problems and defining development issues, designing teaching to develop.

The researchers submitted the developed learning program on leader teacher development program in learning Thai management for enhancing critical thinking of students in secondary schools for Borabue teacher with all six units for evaluating the congruence of content and modules to 5 experts including 1) Prof. Dr. Chaiyong Brahmawong 2) Assoc. Prof. Dr. Samrej Yurachai 3) Assoc. Prof. Dr. Tharinthorn Namwan 4) Asst. Prof. Dr. Yannapat Seehamongkon and 5) Asst. Prof. Dr. Prasert Ruannakarn. The results of evaluation in terms of appropriateness, possibility, and utilization were in the highest level.

The developed five modules on educational administration were tried out with 5 students who were not the samples of this study in the small group trial, and 12 teachers for group trial. Those were studying in Borabue, district in the second semester of the 2019 academic year. The results of the trials revealed that the efficiency of the developed modules was 82.67/83.89. The modules were revised in terms of manual of learning program. The revised learning program in all six units were printed out for implementing with the samples of the study who were 16 for Borabue teacher in The Secondary Education Service Area Office 26, Maha Sarakham, Thailand.

Learning achievement test was developed and tried out as follow:

The researchers studied theories, principles, and concepts of learning achievement test construction of Boonchom Srisa-ard as a guideline for the development. (Sri-saard B, 2002) The researchers conducted 40 items of 4 alternatives multiple choice learning achievement test for the selection of 30 items for the implementation phase.

The developed test was submitted to the same experts for the evaluation for the congruence of behavioral objectives with the following criteria:

- +1 refers to the test is surely congruent with the behavioral objectives,
- 0 refers to the test is not surely congruent with the behavioral objectives, and
- -1 refers to the test is not congruent with the behavioral objectives.

The test was evaluated for the Index of Congruence (IOC) (Somnuk Pattiyathanee) by choosing 30 items having the IOC value between 0.50-1.00 which means that the selected items had the appropriate content validity. (Pattiyatani S, 1998)

The developed test was implemented with the samples who were 30 schools administrators graduating master degree in educational administration, teachers, and educational supervisors under the Yasothon Provincial Educational Office due to the project of "How Coaching Teams improve the Educational Quality?" at JP Emerald, Yasothon province for studying the reaction of test taking, time of taking the test, and understanding of questions. The test was revised until every aspect of the test was appropriate.

The scores received were analyzed to find out the difficulty value (P), and discrimination power (R) of each item. The results revealed that the difficulty value of each item was arranged from 0.40 to 0.80, while the discrimination power of each item was ordered from 0.20 to 0.60. Moreover, the test was analyzed to find out the reliability through the use of Kuder Richardson – 20 (KR-20) and the results revealed that the overall reliability of the was 0.84. The test was, finally, printed out for the next phase of study.

The questionnaire of teachers' satisfaction on learning program on leader teacher development program in learning Thai management for enhancing critical thinking of students in secondary schools for Borabue teacher in eight aspects with 45 items was constructed under the tried out in the following procedures:

- The researchers studied the concepts and theories of satisfaction from the book on reforming administration, theory, research, and educational operation of Thon Suntharayoot. (Soontrayut T, 2008)
- The researchers studied the techniques of developing the questionnaire of satisfaction from the book on Basic of Research of Boonchom Srisa-ard.
- The researchers studied the construction of five-points rating scale questionnaire on satisfaction of Likert Boonchom Srisa-ard. (Sri-saard B, 2002)
- The researchers developed the five-points rating scale questionnaire due to the objectives.
- The developed questionnaire was submitted to the same experts for evaluating the congruence between questions and behavioral objectives based on the following criteria:
 - +1 refers to the test is surely congruent with the behavioral objectives
 - 0 refers to the test is not surely congruent with the behavioral objectives
 - -1 refers to the test is not congruent with the behavioral objectives

The questionnaire was analyzed to find out the Index of Congruence (IOC) (Somnuk Pattiyathanee) and found that the it had the IOC value ranged from 0.80 – 1.00. The experts also commented on language usage, clarification, and the repetition of questions respectively. The developed questionnaire was implemented with the samples who were 30 schools administrators graduating master degree in educational administration, teachers, and educational supervisors under the Yasothon Provincial Educational Office to find out the discrimination power (r) of each item. The results showed that the discrimination power of each item was found between 0.32-0.83. The questionnaire was also analyzed to find out the Cronbach-Coefficient Boonchom Srisa-ard. (Sri-saard B, 2002) It was found that the reliability of the questionnaire was 0.96. The questionnaire was, finally, printed out for the implementation step

Data Collection

- The theory data were collected through pre and post-tests via leaning achievement test.
- The data of learning retention were collected through taking the leaning achievement test again after two weeks of finishing learning through the developed program. The data were also gathered vis the process of AAR.

The learning satisfaction data were gathered through the questionnaire on teachers' teaching, teaching materials, and lessons of the developed program.

Data Analysis

The efficiency and effectiveness of the learning program on leader teacher development program in learning Thai management for enhancing critical thinking of students in secondary schools for teacher was analyzed by finding out the mean score through the formula of Chaiyong Brahmawong as follow: (Brahmawong C, 1994)

The efficiency was calculated via the below E1/E2 formula:

$$E_1 \frac{\Sigma X/N}{A} \times 100$$

$$E_2 \frac{\Sigma X/N}{B} \times 100$$

The analysis of learning achievement on of the developed program was done through the dependent sample t-test with the scores of pre-test, post-test, and learning achievement test received after two weeks of the completion of learning program Boonchom Srisa-ard. (Sri-saard B, 2002)

The analysis of effectiveness of the developed program was analyzed through the Effectiveness Index (E.I.) formula of Chaiyong Brahmawong as follow:

$$\text{Effectiveness Index (E.I.)} = \frac{\text{Mean score of post - test} - \text{mean score of pre - test}}{(\text{Number of students} \times \text{total score}) - \text{Mean score of pre - test}}$$

The analysis of the learning retention of the developed was analyzed through the comparison of mean score of the pre-test and post-test received after two weeks of the completion of learning through the developed program by using dependent sample t-test of Boonchom Srisa-ard. (Sri-saard B, 2002)

The analysis of the satisfaction on the developed was done by finding out the mean score and S.D. through the satisfaction evaluation of Likert Boonchom Srisa-ard.

The comparison of the record of before and after working to find out the results of the qualitative learning activity project was analyzed to find out the percentage of the focused aspects of Boonchom Srisa-ard. (Sri-saard B, 2002)

Research Result

The results of the study of the learning retention of the learning program on leader teacher development program in learning Thai management for enhancing critical thinking of students in secondary schools for teachers were as follow:

The results of the study of the elements and factors of learning Thai management for enhancing critical thinking of teachers to students in secondary schools under the Office of Basic Education Commission:

There were six elements and 23 indicators of learning Thai management for enhancing critical thinking of teachers found including: 1st element on goals specification containing the following indicators: 1) Teachers training on specifying goals of learning Thai management for enhancing critical thinking, 2) Teachers training on Thai language curriculum analysis for the appropriateness of students to enhance the critical thinking, 3) Teachers' participation in leaning goals specification and learning Thai management for enhancing critical thinking, 4) Coordination with experts for supervision and suggestion on specifying goals of Thai learning management for enhancing the critical thinking, and Improving quality of oneself, 2nd element, the consideration of students' readiness including the following indicators 1) Teachers training for being able to develop the evaluation instruments of students' basic knowledge, 2) Giving consultation to teachers for analyzing the students' readiness and developing systematic

students' information for utilizing in enhancing the appropriate critical thinking for students, 3) Supervision of teachers on utilizing students' information in enhancing the appropriate critical thinking for students, 3rd element, content specification containing the following indicators: 1) Organizing the field study about learning resources supporting the content specification on learning Thai for enhancing the critical thinking of students, 2) Organizing the workshop for the teachers to increase the ability in specifying the content related to learning Thai for enhancing the critical thinking of students, 3) Collaborating with the experts for consulting with teachers on specifying the content related to learning Thai for enhancing the critical thinking of students, 4th element, learning activities consisting of the following indicators: 1) Presenting problems analysis step refers to teachers can specifying the problematic situations, arguments, and unclear data needed the critical thinking, consideration to find the logical stimulating the students to define, analyze, and understand the problems, 2) Individual thinking practice step means teachers give opportunities to each student practice thinking regarding the provided situation stimulating students to practice collecting data and resources, identifying the characteristics of data, managing data system, and proposing hypothesis through specifying alternatives of solutions basing on logic allowing students to think and solve problems by themselves, 3) Small group practice step is teachers allows each student to share and exchange their ideas in group comparing the differences and similarities, 4) Presentation and discussion step refers to teachers give opportunities to students to share the idea from small group to big group to see both differences and similarities, the sharing and exchanging ideas between students and teachers are done to widen and link knowledge for solving problems, 5) Process evaluation step means teachers propose the problems or limitations of the content of lesson for considering and summarizing to students and let them evaluate their thinking methods and processes to see whether they are corresponded with the goals of development or not, the 5th element, evaluation includes the following indicators: 1) The teachers training on evaluation and assessment based on the core curriculum of the Office of Basic Education for managing the learning Thai for enhancing the critical thinking, 2) Supervision, monitoring, and evaluation of the teachers on the provided program, and 3) Collaborating with the experts for consulting with teachers on specifying the content related to learning Thai for enhancing the critical thinking of teachers to students, 6th element, feedback consisting of the following indicators: 1) Organize the teachers training to share the problems occurred in managing the learning Thai for enhancing the critical thinking of students to find the mutual solution, 2) Organize the workshop supporting the teachers to manipulate the information to be up to date or easy for searching, 3) Collaborating with the experts for consulting with teachers on specifying the content related to learning Thai for enhancing the critical thinking of students.

The current context and desirable situations of learning Thai management for enhancing critical thinking of teachers to students in secondary schools under the Office of Basic Education Commission revealed that the current situation of learning was in the high level which could be arranged in the descending order as evaluation, organizing learning activities, learning goals specification, giving feedback, consideration of student' readiness, and content specification respectively. For the analysis of desirable context for learning, the results were in the highest level which could be arranged in the descending order as giving feedback, consideration of student' readiness, evaluation, learning goals specification, organizing learning activities, and content specification respectively.

The construction and development of the leader teacher development program in learning Thai management for enhancing critical thinking of teachers to students in secondary schools for Borabue Teacher in The Secondary Education Service Area Office 26 teacher

through the integration of digital learning (Google Classroom). The developed program consisted of the following elements which were: 1) Principles of system, 2) Objectives of program, 3) Goals of program, 4) Patterns and methods of development, 5) Structures of program, 6) and Content of program including six modules namely Module 1: learning goals specification, Module 2: students' readiness consideration, Module 3: content specification, Module 4: organizing learning activities, Module 5: evaluation, and Module 6: giving feedback through 118 hours for development. The variety of methods of development were employed to create the deep and sustainable understanding and learning skills for the participants to utilize in program development including 1) Training, 2) Self-development by self-study, development, and four development processes including step 1) Evaluation before development, step 2) development, step 3) Integration during operation, and step 4) Evaluation. The results of Program evaluation from experts showed that the usefulness, the appropriateness, and the possibility of the program were found in the highest level.

Table 1: *Process Efficiency vs. Effectiveness of Results for Developing Knowledge Managers in Leader Teacher in Creative Thinking*

Number	Score after 2 weeks) 60)	Pre-test (60)	Learning Goal)4(0	Practical Score for program					Total practical 1)6(0	Post-test (60)
				Consideration (20)	Content(20)	Instruction(20)	Evaluation(20)	Feedback) 40(
1	58	40	38	18	18	18	18	38	148	49
2	58	38	38	18	18	18	18	39	149	56
3	58	41	37	18	18	17	17	38	145	52
4	53	39	37	18	17	18	18	38	146	54
5	57	34	37	18	18	18	18	37	146	50
6	58	30	37	18	18	18	18	38	147	50
7	59	34	37	18	18	18	18	38	147	52
8	58	28	37	18	17	18	17	38	145	50
9	60	28	37	18	17	17	18	38	145	51
10	60	26	38	17	18	18	17	38	146	50
11	58	27	38	18	18	18	17	38	147	48
12	58	29	38	17	17	18	18	37	145	47
13	58	52	37	18	18	18	18	38	147	50
14	57	24	38	17	18	18	18	38	147	45
15	60	42	38	17	17	18	18	38	146	49
16	60	45	38	18	18	18	18	38	148	55
Total	930	557	600	284	283	286	284	607	2,344	808
\bar{x}	58.13	34.81	37.50	17.75	17.69	17.88	17.75	37.94	146.50	50.50
S.D.	1.71	7.96	0.52	0.45	0.48	0.34	0.45	0.44	1.21	2.85
\bar{x} %	96.88	58.02	93.73	88.75	88.44	89.38	88.75	94.84	91.56	84.17

The results of the implementation of the leader teacher development program in learning Thai management for enhancing critical thinking of teachers to students in secondary schools under the Office of Basic Education Commission were as follow:

- The program on the leader teacher development program in learning Thai management for enhancing critical thinking of teachers to students in secondary schools for Borabue

Teacher in The Secondary Education Service Area Office 26 had the efficiency of 91.56 (E1) /84.17 (E2) which were higher than the committed 80/80 standard.

- The program on the leader teacher development program in learning Thai management for enhancing critical thinking of teachers to students in secondary schools of Educational Administration course for teachers was evaluated by the experts in the highest level (\bar{x} = 4.99, SD = 0.02).
- The effectiveness index of the developed program through the integration of digital learning (Google Classroom) was 0.6228 which meant that for the teacher gained more knowledge of 62.28%.
- The teachers who learned through the developed program through the integration of digital learning (Google Classroom) had the significantly higher learning achievement than before learning via the developed program at the level of 0.05.
- The teachers who learned through the developed program through the integration of digital learning (Google Classroom) had no significant differences of the learning achievement between after learning and after learning for two weeks. This could be said that they had the learning retention from learning through the developed program.
- The teacher who learned through the developed program through the integration of digital learning (Google Classroom) had the satisfaction on learning in the highest level (\bar{x} = 4.52, SD = 0.42). When considering in all eight aspects, the results could be arranged in the descending order as follow: 1) qualifications of teachers (\bar{x} = 4.66, SD=0.50) 2) teachers have efficiency and effectiveness of teaching (\bar{x} = 4.59, SD = 0.51) 3) content (\bar{x} = 4.59,SD=0.50) 4) relationship between teachers and supervisors (\bar{x} = 4.57, SD=0.54) 5) practice and theory teaching (\bar{x} = 4.52, SD = 0.53) 6) measurement and evaluation (\bar{x} = 4.49, SD=0.59) 7) practice teaching skill (\bar{x} = 4.45, SD=0.57) and 8) learning materials (\bar{x} = 4.35, SD=0.60) respectively.

Discussion and Conclusion

Discussion

The results of the study of the leader teacher development program in learning Thai management for enhancing critical thinking of teachers to students in secondary schools for Borabue teacher could be discussed as follow:

There were 6 elements and 23 indicators of learning Thai management for enhancing critical thinking of teachers found including: 1st element on goals specification containing the following indicators: 1) Learning goals specification, 2) students' readiness consideration, 3) Content specification, 4) Organizing learning activities, 5) Evaluation, and 6) Giving feedback which all elements were evaluated in the highest level. This might be due to the fact that the researchers studied the related concepts, theories, and research on elements and indicators for managing learning Thai for enhancing critical thinking of students in secondary schools. Moreover, the researchers also consulted with the experts on the processes of developing those elements and indicators. This could be concluded that the researchers used the secondary sources basing on the theories which could be accounted by reasons and checked for the validity easily. This was corresponded with the program containing principles, reasons, goals, basic knowledge, basic evaluation, learning activities, before learning evaluation, and remedial courses had the efficiency of Thikhamphorn Boonmaak who conducted the research on the teachers development of learning management for educational opportunity extension schools through 7 steps including: 1) Objectives specification, 2) Students characteristics study, 3) learning goals specification, 4) Content specification, 5) Organizing learning activities, 6)

Evaluation, 7) Giving feedback which were appropriate for using in teachers development. Moreover, the results of the consideration of the trials of the program, it was found that the developed program helped improve the progress for both teachers and students which were: 1) Teachers had a better understanding of learning management representing by the score of the test before attended the training was in the low level while the score of the test after received the training was in the high level, and 2) Teachers could manage the learning and had the awareness and understanding of teacher development program on learning management for educational opportunity extension schools. There were five elements for organizing learning activities consisting of: 1) Problems presentation, 2) Individual thinking practice, 3) Small group thinking practice, 4) Presentation and discussion of results of thinking, and 5) Evaluation thinking processes.

The study the current context and desirable situations of learning Thai management for enhancing critical thinking of teachers for students in secondary schools under the Office of Basic Education Commission revealed that the current context of learning management was in the medium level while the desirable situation was in the highest level. The results also showed that the method of teacher development of learning Thai management for enhancing critical thinking by analyzing the frequency arranged in the descending order as follow: training and self-learning which corresponded with the Ministry of Education mentioning that the student-centered learning based on the belief that all individual can fully learn and improve themselves regarding their potential. Thai language is recognized as the identity and cultural treasury of nation showing being Thai. It is also used as the tool for communication for creating understanding and good relationship between people, doing business, working, and living happily in society. This was also supported by the study of Thikhamporn Boonmaakon the research on the teachers development of learning management for educational opportunity extension schools which was found that the situation teachers development of learning management for educational opportunity extension schools was in the high level, the problems of teachers development was reported in the low level, the needs of teachers development was in the high level, and the needs of the approaches of teachers development was found in the highest level which could be arranged in the descending order as training, study trip, internal supervision, teachers teamwork development, workshop, consultation, self-research and development, seminar, direct support, and further study.

The development of the leader teacher development program in learning Thai management for enhancing critical thinking of teachers to students in secondary schools under the Secondary Schools Under the Office 26Administrative Organization had the following element which were: 1) principles of program, 2) objectives of program, 3) goals of program, 4) content and activities of program, and 5) program evaluation. For the structure of content and activities of the development of the program, they were divided into three phases including: phase 1) the evaluation before development, phase 2) development which included six modules namely: module 1) learning goals specifying, module 2) students' readiness consideration, module 3) content specification, module 4) organizing learning through 118 hours of time for development. The processes of development were training and self-development, phase 3) the integration during operation, phase 4) evaluation after development. The results of the development of manual of the leader teacher development program in learning Thai management for enhancing critical thinking of students in secondary schools under the Secondary Schools Under the Office 26Administrative Organization included four parts including: 1) introduction, 2) teacher development program on learning management, 3) the utilization of teacher development program, and 4) evaluation. This was corresponded with the study of Yod-Anong Chomhongphiphat (2010: 175-183) on the development of leader teacher

on learning management regarding the reform of basic education that created and developed the leader teachers on learning management basing on the reform of basic education consisting of seven aspects including: 1) vision), 2) principles, 3) objectives, 4) content, 5) processes, 6) structures, and 7) measurement and evaluation of program process.

The Evaluation of both efficiency and effectiveness of the leader teacher development program in learning Thai management for enhancing critical thinking of teachers in secondary schools through the integration of digital learning (Google Classroom) was as follow:

The program on the leader teacher development program in learning Thai management for enhancing critical thinking of teachers to students in secondary schools of teacher had the efficiency of 91.56 (E1) / 84.17 (E2). This might be due to the fact as follows: 1.1) the researchers studied the curriculum and related literatures on learning module development and had it sent to the experts to check for revision and the results revealed that the developed learning module on policies, strategic, and educational strategy plan for teachers was evaluated by the experts in the highest level while the appropriateness, the possibility, and the utilization were arranged in the descending order when considering in each aspect, and 1.2) the two trials of the developed learning modules with two groups were done by the researchers in all steps including the first group consisted of nine schools administrators who graduated master degree in educational administration working for Mahasakham Provincial Education Office 26 area and the results showed that the efficiency was 82.67/83.89 resulted from the improvement for the completion of the developed modules received during the trials to reach the committed efficiency. This was corresponded to the results of the study of Suchittra In-Rueangsion the development of learning modules on life and Thai culture for the diploma students of Vehicle Industry Technical College which showed that: 1) the modules containing principles, reasons, goals, basic knowledge, basic evaluation, learning activities, before learning evaluation, and remedial courses had the efficiency of 83.88/85.96. Consequently, the learning management on policies, strategic, and educational strategy plan through the use of learning modules was appropriate for the developing students by appropriate using principles and theories in implementation will improve the efficiency of learning management resulting the students could fully improve their potentials. This corresponds to the development of teachers with a creative program in Thai language for secondary school students to be suitable for both teachers and students by Chantarasombat C, and Meekhamtong, P.(2020:10-20) the program containing principles, reasons, goals, basic knowledge, basic evaluation, learning activities, before learning evaluation, and remedial courses had the efficiency of 85.67/84.00, and Chalard Chantarasombat and Ekanun Sombatsakulkit (2021: 138-149) the program containing principles, reasons, goals, basic knowledge, basic evaluation, learning activities, before learning evaluation, and remedial courses had the efficiency of 91.56/84.17. It is said that the efficiency is higher that the set threshold as well.

The teachers who learned through the program on learning Thai management for enhancing critical thinking of teachers in secondary schools of Borabue teacher for in The Secondary Education Service Area Office 26 had the learning achievement which was significantly higher than before learning via the developed program at the level of 0.05. This might be due to the fact that:

There was the learning management focusing on learning by doing and teachers-centered, and the learning activities were based on the knowledge and interest of students for self-development which help improves students' skills. Learning activities are, consequently, necessary to be focused on real practice in terms of individual, small group and whole class which will help improve students' skills, knowledge, systematic thinking, and critical thinking.

There was consistent with the concept of Phimphan Dechakhoopstating that students-centered is the learning management stimulating students to acquire new knowledge and innovations through the use of thinking process and social process to use the relationship and participation in learning and applying knowledge. Moreover, the results from the study also revealed that the use of the developed modules evaluated by the experts in the highest level made all modules had the efficiency regarded the committed standard. The students could learn from the modules according to their interests. With the appropriate content, language usage, exercises, and answer keys, this made students had knowledge, expertise, precision, and learning retention. The results of this study also found that the teachers had no differences between learning achievement on policies, strategic, and educational strategy plan after the completion and learning achievement of the learning completion after two weeks, and 2.2) the learning modules were the motivation in learning management which the students could learn what they want and what they like. The developed modules also helped improve the critical thinking and analytic thinking from learning though each module. This was corresponded with Watthana Ra-Ngabthookwho stated that teachers who teach students have to design the teaching process to develop students to be qualified with the committed standard. Choosing of appropriate learning activities for developing the quality of students, the teachers have to know about basic of learning management and the learning goals specification for encouraging students behave in the desirable behaviors which is the simulation of students' attention in learning and assistance for the better learning which can be utilized in the daily life.

there was the preparation of learning atmosphere supporting the learning which was relax and based on individual differences. The teachers had the satisfaction on learning though the leader teacher development program in learning Thai management for enhancing critical thinking of students in secondary schools of Educational Administration for students in the highest level. This might be due to the fact that the developed learning modules were interesting since the learning activities were diverse attracting the teachers' attention properly. Moreover, the teachers had chance to practice the learning activities which were suitable for their ability which was corresponded with the concepts, theory, and principles of learning module development of Chomphan Koonchorn Na Ayutthaya who proposed the suggestions for developing learning program as follow:

- 1) developer have to concern with the general goals of the curriculum and consider carefully to check whether the developed learning goals can improve the graduates' competency as stated in the general goals of curriculum and to check whether the congruence of learning activities with the learning philosophy of the curriculum,
- 2) in there should be the targeted competencies for students,
- 3) after the learning goals were specified, ,
- 4) for the development of basic evaluation,
- 5) for developing learning activities,
- 6) if the developer think that the developed leaning activities should be arranged,
- 7) all activities provided for the students to chooses should be equally provided to them for practicing,
- 8) for the evaluation after learning,
- 9) the developer might specify the remedial activities according to the appropriateness although the program was carefully design and develop,
- 10) the description of the modules should be short and clear,
- 11) the developer should allow team members and students to criticize for the improvement of the developed modules,
- 12) after the completion of the modules development, and
- 13) finally, the developer should be aware that the developed modules can be always changes which might stimulate the teachers to be satisfied on the developed modules. This was corresponded with the study of Rueangsaeng Hasakoon who studied the development of model of short course curriculum development through the use of modules for teaching and learning for the educational institutes under the Office of Vocational Education and found that the students had the satisfaction on the developed modules in the

highest level. As mentioned earlier, this made the students had the satisfaction on the developed modules in the highest level.

Conclusion

Regarding what have been presented above, the researchers develop the leader teacher development program in learning Thai management for enhancing critical thinking of students in secondary schools of Borabue teacher under the jurisdiction with the belief that it would be useful, possible, and appropriate for the implementation in the real situation. The enhancement of students' learning achievement in in The Secondary Education Service Area Office 26., MahaSarakham, by the application of Educational Supervision Clinique: the Route to Excellence, into Supervision and Coaching, was appropriate through the usage of school staffs including the internal supervision of school administrators as well as leading teachers and collaborative development teachers, and outsiders including the continuous supervision, both of individual and group supervision, and online supervision. Furthermore, the development was viewed thoroughly by using the Before Action Review (BAR), During Action Review (DAR), and After-Action Review (AAR) through learning by doing. The project had agreement in classroom real practice. The school had to establish working plan in learning activity between teachers-teachers, learning together between teachers and students, learning together between teachers, school administrators for quality classroom.

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