

## Development of Achievement Motive Support Activity Set for Primary School Students

Ammaret Netasit<sup>\*</sup>  
Setthawit Chanowan<sup>\*\*</sup>

### Abstract

This research had the objectives to develop an Achievement motive support activity set for primary education students of schools under Lampang Primary Education Service Area Office 3 and study the results of using the Achievement Motive Support Activity Set. The sample groups was 3 educational psychology and guidance specialists, 10 guidance teachers or teachers of primary education, 31 primary education students studying in Semester 2 of the Academic Year 2015, 3 teachers of the sample pupil classes and 31 parents of the sample students. The research tools were Documental content analysis form, Interview form, Focus group discussion of concerned learned personnel and achievement motive assessment form. The statistics used in data analysis were means, standard deviation t-test analysis and ANCOVA.

The research findings included the achievement motive support activity set called “Achievement Motive wins success” consisting of 10 smaller activities: 1) What I am and what I dream of 2) New Me 3) Good personality wins 4) Languages in ASEAN 5) Shoot the boat 6) Write according to the picture 7) Good memory needs pictures 8) Dream occupation 9) Go far in ASEAN and 10) Own boss. After using the developed activities to support achievement motive for the primary education students of the schools under the Office of Area Primary Education Lampang Area 3, it was found that the students’ achievement motive increased at the high level. The students, class teachers and parents assessed the students’ achievement motive after using the achievement motive activity set in the same direction and the expression behaviors of the students were according to the objectives of the activities.

**Keywords:** Achievement motive, Primary education students

---

<sup>\*</sup> Assistant Professor, PhD. Department of Education Psychology and Guidance, Faculty of Education, Lampang Rajabhat University, Thailand. Email: a.netasit@yahoo.com

<sup>\*\*</sup> Lecturer, Department of Educational Research and Evaluation, Faculty of Education, Lampang Rajabhat University, Thailand. Email: setthawit@hotmail.com

## Introduction

Motivation is directly significant towards a person's behavior because motivation is a state that both pushes and pulls an individual to show different behaviors including having influence on the quality and quantity of work, results of studying and results of every activity. Essentially motivation will directly affect future living. When a person lacks motivation, apart from not being able to finish studying, the person may create other problems. Thailand National News Office (2013) surveyed and reported the results of the work on prevention and correction of narcotic problems among high-risk out-of-school youth ages 7-24 years with risky behavior concerning drugs and found that they joined as gangs and created problems such as car or motorcycle racing, using violence, going to bars or entertainment places, gathering at night, gathering in games/internet cafes, petty theft, wandering etc. From studying and observing behaviors of youth with low achievement motive found that they had come to class late without reasonable cause behavior, leaving classroom immediately when they had opportunities, having unfinished assignments, handing in work late, having uncertain studying value and attitude and using free time unsystematically (Khien Wantaneetrakul, 2010) which were different from students with high achievement motive. These students would have set life goals and try to achieve the set goals which showed that they really had plans and definite intention to proceed to that plan. They had ambition and could force and control themselves well, improved themselves continuously and tried to overcome problems and barriers to succeed in their work (McClelland, 1961). Achievement motive is a result of learning not heredity. Training including environment affects directly the levels of a person's motivation. If the child is raised and cared well and correctly according to the principle of psychology and other related academic principles, the child will develop to his or her full potentials including having achievement motive.

Students in primary education are in the age of readiness preparation in body, emotion, social and intelligence. If the children live in the environment that supports every side of development, they can adapt to new experiences or new environment smoothly. Children at this age have increased learning because it is their school age. Children start learning from things close to themselves first then they learn from the environment far away from them. For starting children, they would learn well if the school arrange the environment and let the children move and always participate in various activities. That will increase or support intelligence development of the children very much. Things that help or create curiosity, need to experiment and study with suitable media such as movies, television and cartoon pictures which have a great influence on children development of emotion, language

and intelligence. Children at this age have all the sides maturing almost fully and make children have increased abilities in many sides. Because the children learn widely during this period, they can think and solve problems by themselves (Bussayagorn Yothanak, 2010) so organizing achievement motive support activities for children in primary education level helps good learning in students.

Jaruso Sudkhiree (2011) analyzed the decreasing achievement in studying of students in assessing quality of learners found that there were still at very low achievement level in every group especially the ability to think, analyze, synthesize, criticize and create, but the high quality was only 11.1% and have skills for searching for knowledge by themselves, love of continuous learning and self-development were only 26.5% of all schools. From the study of Ueampon Linjarern (2013) found students in Primary School grade 6 gave very little importance for examinations because they did not know what they would use the results for. Environment of small schools out of town usually has little academic competition, enthusiasm and studying attention. Thanet Khamgerd (2009) said one of the causes of decreasing achievement in student learning was lacking of things that motivated students to get serious and intend to work really on the examinations.

For primary education schools in Lampang Primary Education Service Area Office 3, Thailand also had the problem of low learning achievement. Therefore, activity sets that would help encourage and support achievement motive for students in primary schools because when the students had high achievement motive, it affected the studying results of the students too. The author thought there should be a study on the development of achievement motive support activity sets and use the sets to operate on supporting achievement motive to students so that they had higher achievement motive and better studying results, growing up to be high quality grown-ups in the future, being able to live happily in the society and providing good results to the country as a whole. If there are no researches and support for achievement motive, it might finally affect the society. Moreover the finished achievement motive support activity sets could be guidelines for other primary schools that want to encourage the use of achievement motive for primary school students to apply and use in the future.

## Research Objectives

1. To develop achievement motive support activity sets for primary education students of schools under the Lampang Primary education Area Office 3
2. To study the results of using the achievement motive support activity sets for primary education students of schools under the Lampang Primary Education Service Area Office 3

## Research Hypothesis

Students have higher achievement after participating in the achievement motive support activities from achievement motive support activity sets than before participating in the activities

## Method

### 1. Participants

1.1 Experts on educational psychology and guidance purposively selected whose duties were giving information concerning achievement motive support for primary school students totaled 3 persons.

1.2 Guidance teachers or primary school teachers in schools under Lampang Primary Education Service Area Office 3, Thailand who had skills in organizing activities for primary school students divided into 2 groups: The first group totaled 10 persons purposively selected with the duties to provide information concerning achievement motive support for primary school students and the second group totaled 3 persons with volunteer sampling selected method who would take the achievement motive activity set to experiment with primary school students.

1.3 Students in grade 4-6 of the primary school in Lampang Primary Education Service Area Office 3 Thailand studied in the 2015 academic year at Chae son Wittaya School using volunteer sampling method (of the school director) as the experimental group for the developed achievement motive activity set totaled 31 students.

1.4 Teachers whose students were the experimental group by purposive sampling method as the evaluators of the student achievement motive totaled 3 persons.

1.5 Parents of students in the experimental group by purposive sampling method as the evaluators of the student achievement motive totaled 31 persons.

## 2. Research Tools

The tools used for data collection were built from related theories and researches developed appropriately for this research according to the following details.

2.1 Document Analysis using Krippendorff's (1980) Content Analysis Technique to analyze the achievement motive support activity set method for primary education students from the study of documents, websites and interviews.

2.2 Interview Form to interview psychological and guidance experts to collect data concerning achievement motive for primary education students by passing the verification for language clarity for 5 experts so the constructed interview form covers and in accord with the research objectives

2.3 Formal Observation Form to observe the achievement motive behaviors before and after using the achievement motive support activity set for primary education students by passing the verification check for language clarity for 5 experts so the constructed observation form covers and in congruence with the research objectives.

2.4 A questionnaire about acceptance of the achievement motive support activity set called "Achievement Motive Wins Success" consists of 10 smaller activities that had passed the verification of 3 psychological experts and 2 research statistics experts totaled 5 persons checking the content validity and communicative language clarity in each item and used the score of each item to find the Index of Item-Objective Congruence: IOC that when the calculated value is more than 0.5, the questionnaire is regarded as acceptable and having suitable IOC value.

2.5 Focus Group Discussion which was a meeting to enable to actually use the achievement motive support activity set with the primary education students in the schools under the Lampang Primary Education Service Area Office 3.

2.6 Achievement Motive Assessment Form This is a 5 level rating scale questionnaire for students, classroom teachers and parents to assess the achievement motive before and after the use of developed achievement motive support activity set by taking the assessment form to calculate for the reliability through a try-out with 30 students who were not the studied population at Anuban Kohkha School, Kohkha district, Lampang province and were studying in Level 2 Range, classroom teachers and parents and analyzed for the questionnaire's reliability by finding the Cronbach's Alpha Efficiency. The results of reliability analysis of achievement motive assessment form was 0.91 for 'student assessed', 0.97 for 'teacher assessed' and 0.89 for 'parent assessed.'

### 3. Research Design

This is a quasi-experimental research that the author used One Group Pretest and Posttest Design with the research methodology as in Table 1.

**Table 1.** Research Design

Sample Group	Pretest	Treatment	Posttest
E	T <sub>1</sub>	X	T <sub>2</sub>

Meanings of Symbols

E represents Experimental Group Specification

T<sub>1</sub> represents Pretest using Achievement Motive Assessment Test

X represents Using the Achievement Motive Support Activity Set for  
Primary School Students

T<sub>2</sub> represents Posttest using Achievement Motive Assessment Test

### 4. Procedure

4.1 Analyzed achievement motive support method by studying from documents, websites, interviews 3 educational psychology specialists and skillful teachers organizing primary school student activities and had a focus group of 10 guidance teachers and classroom teachers as a guideline in the development of achievement motive activity set for primary school students.

4.2 The author drafted the achievement motive activity set for primary school students from the results of data analysis both from this country and abroad including from the interviews and the focus group.

4.3 Presenting the achievement motive activity set for primary school students by taking the developed activity set to ask for opinions to be evaluated the suitability by using a rating scale questionnaire to ask psychology and guidance academicians from 6 government universities in upper northern Thailand totaled 30 respondents.

4.4 Improving the achievement motive activity set for primary school students by using the opinions, recommendations concerning the activity set from the specialists of the 6 universities to improve and develop to get a suitable achievement motive activity set for primary students.

4.5 Checking and confirming the achievement motive activity set for primary school students.

4.6 Supporting the achievement motive activity set for primary school students by organizing a workshop to inform, clarify and explain the purposes, targets, steps and methods for the use of achievement motive activity set to the guidance teachers and regular classroom teachers in primary schools under Lampang Primary Education Service Area Office 3 and conducted the achievement motive activity set together with the researcher.

4.7 Assessing the use of achievement motive activity set by using assessment forms to evaluate the activity set for students, teachers and parents, collected data before and after organizing the achievement motive support activity by conducting activities according to the developed activity set and behavioral observation forms to observe the behaviors showing the possessing of achievement motive during activities.

## **5. Data analysis**

For analyzing quantitative data and qualitative data, the author operated as follows:

5.1 Studied documents and websites concerning achievement motive support the analyzed data by analyzing the matters and concluded the results of the analysis.

5.2 Analyzed the achievement motive support activities from the interviews then analyzed the data by analyzing the matters and concluded the results of the analysis.

5.3 Analyzed the data from the questionnaire of the academicians from governmental universities in upper Northern Thailand that taught psychology totaled 30 respondents about the opinions to ensure that the achievement motive support activities for primary school students were suitable by calculating for the Means and Standard Deviations.

5.4 Presenting the achievement motive support activities by asking the academicians of governmental universities in upper Northern Thailand who taught psychology and selected only the factors of the achievement motive support activities that the academicians agreed more than 60% which showed that the particular factor received consensus (Flander, 1989 as cited in Kanittha Navarat, 2006).

5.5 Collecting data from focus group discussion of specialists by analyzing the matters and concluded the results of the discussion.

5.6 Analyzed the data from the achievement motive evaluation forms before and after the achievement motive support activities was by using a computer package in the analysis for the difference using dependent samples t-test and ANCOVA.

5.7 Analyzed the data from behavioral formal observations of primary school students in overall picture after the achievement motive support activities was by analyzing the matters and concluding the results of the analysis.

## Results

Result of the development of achievement motive support activity set for primary education students was an achievement motive support activity set called “Achievement Motive Wins Success” with the components of the activity set consisted of Introduction, Directions of How to Use the Activity Set, Roles of the Guidance Teacher/Teachers assigned to conduct the activities and Achievement Motive Support Activity, achievement motive assessment forms and plans for conducting achievement motive support activities which consisted of 10 smaller activities as follows: 1) “The thing that I am and the thing that I dream” activity 2) “New Me” activity 3) “Good personality wins” activity 4) “ASEAN Languages” activity 5) “Shoot the Boat” activity 6) “Draw According to the Picture” activity 7) “Remember Well Needs Pictures” activity 8) “Dream Occupation” activity 9) “Go far in ASEAN” activity 10) “Your Own Boss” activity. These activity sets were printed using A5 sized paper complete with illustration and beautiful colors for convenience when used outside and disseminated as shown in Figure 1.



**Figure1.** Sample of Activities Set in the format of A5

Results of using achievement motive support activity set for primary school students of schools under Lampang Primary Education Service Area Office 3 divided the presentation into 3 parts as follows:

**Part 1:** Results of using achievement motive support activity set for primary school students of schools under the Office of Lampang Education Primary Education Service Area 3 from the assessment forms. The author asked the students, classroom teachers and parents of the sample groups answered the achievement motive assessment forms before and after receiving the achievement motive support and the detailed results of the achievement motive assessment forms were as follows:



Students had the achievement motive from the assessment in the 3 parts overall before using the activity set at a high level ( $\bar{X} = 3.66$ ) and after using the activity set was also at the high level ( $\bar{X} = 4.17$ ) and when considered separately according to the assessors, it was found that:

Assessed by the students, before using the activity set, the achievement motive was at a high level ( $\bar{X} = 3.83$ ) and after using the activity set, it was also at a high level ( $\bar{X} = 4.30$ ) and had the mean difference of achievement motive between before and after with the statistical significance level of 0.01 as shown in Table 2.

**Table 2.** The comparison of the average rate of achievement motive before and after using the activity set, Assessed by the students.

	n	$\bar{X}$	S.D.	t
Post-test	31	4.30	0.45	13.752**
Pre-test	31	3.83	0.47	

\*\*  $p < 0.01$

Assessed by the classroom teachers before using the activity set, the achievement motive was at a high level ( $\bar{X} = 3.73$ ) the same as after using the activity set ( $\bar{X} = 4.22$ ) and had the mean difference of achievement motive between before and after with the statistical significance level of 0.01 as shown in Table 3.

**Table 3.** The comparison of the average rate of achievement motive before and after using the activity set, assessed by the classroom teachers.

	n	$\bar{X}$	S.D.	t
Post-test	31	4.22	0.54	12.246**
Pre-test	31	3.73	0.60	

\*\*  $p < 0.01$

Assessed by the parents before using the activity set, the achievement motive was at a medium level ( $\bar{X} = 3.42$ ) while after using the activity set, the parents assessed the achievement motive of the students at a high level ( $\bar{X} = 3.99$ ) and had the mean difference of achievement motive between before and after with the statistical significance level of 0.01 as shown in Table 4.

**Table 4.** The comparison of the average rate of achievement motive before and after using the activity set, assessed by the parents.

	n	$\bar{X}$	S.D.	t
Post-test	31	3.99	0.59	9.267**
Pre-test	31	3.42	0.71	

\*\*  $p < 0.01$

**Part 2:** The results of the congruence analysis of the assessment by the students, classroom teachers and parents.

From the analysis of the relationship between students' achievement motive before and after using the achievement motive support activity set, it was found that there was no difference between the assessment groups and the students' achievement motive before using the activity set was related to the students' achievement motive after using the activity set, so the results of the assessed students' achievement motive before using the activity set as the co-variable in the analysis to get rid of the influence of the inequality in the assessment results of the 3 assessment groups.

Results of the analysis of the agreement of the results of assessment by the students, classroom teachers and parents found that the results of the assessment of the achievement motive of the students after using the activity set are not different with the statistical significance level of 0.05. This means that the students, teachers and parents had the results of the achievement motive assessment of the students after using the activity set in accord with or in the same direction as shown in Table 5.

**Table 5.** Results of the analysis of the agreement of the results of assessment by the students, classroom teachers, and parents. When there was students' achievement motive before using achievement motive support activity set as a co-variable.

The Source of the variance	df	SS	MS	F	Sig.
Between group	2	0.012	0.006	0.324	0.725
In group	37	0.700	0.019		
Total	41	726.900			

**Part 3:** Results of using achievement motive support activity set for primary school students of schools under the Office of Lampang Education Primary Education Service Area 3 from formal observations found that the students cooperated and were interested in doing the activities very much. They found that doing the activities are fun and could be observed clearly that expression behaviors of the students were according to the purposes of the activities and the student behaviors during the achievement motive activities had details divided according to separate activity as follows:

**“The thing that I am and the thing that I dream”** activity revealed that doing the activity made every student able to tell the occupation in accord with his or her aptitude or liking and tell the plan to do, to get, to work in that occupation and had ambition agreeing to his or her own self-concept.

**“New Me”** activity revealed that doing the activity made the students analyze their own habits and told how to change themselves to be successful in the future and had the effort to push themselves to be better than before.

**“Good personality wins”** activity revealed that doing the activity made the students have the characteristics that wanted to know feedback information including being able to tell the aspects of the person who had a good or bad personality.

**“ASEAN Languages”** activity revealed that the students are diligent and work hard in helping to answer questions and conclude the importance of knowing languages in ASEAN.

**“Shoot the Boat”** activity, the students worked with planning and were able to adapt in being a leader or a follower and could communicate and work with friends in the same group.

**“Write According to the Picture”** activity, the students showed the behavior of the person who always developed and could read and write specified words correctly.

**“Remember Well Needs Pictures”** activity revealed that students could manage their own memory system, could remember specified things in a short time and made them have capacities in managing work system better that affected the work management skill development.

**“Dream Occupation”** activity revealed that students could tell the future occupations they wanted to do, could tell the reasons for choosing the occupation they wanted to do, had aims and long plans for the occupations including knowing the good points of the occupations they wanted and that would be the motivation for the students to try to achieve in the occupations and future that they wanted.

**“Go far in ASEAN”** activity revealed that the students displayed the behaviors aiming for success and afraid of failure, trying to find the methods that made them successful as expected by trying to arrive at the set goals.

**“My Own Boss”** activity revealed that students could tell independent occupations, tell the good points of independent occupations and see clearly that the students want success from competition. There were planning in answering questions during the activities, responsible for the answers they gave during the activities and were brave enough to face when they answer wrongly.

## Discussion

From the discoveries concerning the achievement motive support activity set, it was found that there should be a manual in using the activity set clearly with beautiful image; convenient to keep and use; with details and steps in doing the activities; using easy words to understand language; complete with components of the principles and reasons as the foundations for conducting the activities, with a clear explanation for the activities, with not too complex activity rules, inserted with contents according to the principle theories in the research; each activity had continuity, in stages, with linking and ranking step by step in doing the activities, from easy to more difficult with many varied medias and equipment to attract attention in congruent with Surang Khowtrakul (2001) who said the characteristics of the stimulus that would make a person perceive well should be stimulus that were bright and colorful which created perception better than plain colors. Moreover in conducting the activities, the principle of perception could be applied to motivate activity participants to receive perception such as conducting activities and experiences that involved a lot of nerves and feeling on many sides and importantly it was also discovered that the aspects of the

activity set agreed with 3 types of guidance (Carter V. Good, 1973): Education guidance that helped students to know and understand themselves fully and helped the students choose study plans correctly according to their understanding, want, aptitude and ability; Vocational guidance that would make the students see the importance of occupations, have knowledge and understanding about different occupations in the local and in the wide world, realize the influence of many things such as aptitude, interests, personality, levels of intelligence, physical conditions that were important for the decision to choose an occupation; Personal and social guidance that would help students become persons with suitable characteristics and personality admired by the people who get to know them to help them understand others that would help them adapt to others well and live happily in the society.

The students overall had achievement motive as assessed from their own assessment and from the teachers and parents, before and after using the activity set was increased at the high level but had the difference of the means of assessment before and after the use of achievement motive activity set with the statistical significance level of 0.01 that showed the developed activity set which was a guidance activity set really helped create achievement motive for students. As Chorlada Khuanmueang (1998) said about the benefits of conducting guidance activities by using guidance activities that the guidance teachers could see the development of each student and help the activity process efficiently; the students could search for knowledge by themselves with enthusiasm and bravery to express their opinions; they had responsibility and knew how to work as a team. Moreover, this was also in accord with the research by Chitapan Moonpon (2009) who conducted a research in the topic of using a guidance activity set according to McClelland's theory to support academic achievement motive of students in the secondary education level 3 (grade 9) and found that the students learning with using guidance activity set had higher academic achievement motive than before using the set with statistical significance level at 0.05.

The assessment of achievement motive by the parents found before using the activity set, the students had achievement motive at a medium level and after using the set, the parents assessed the student achievement motive at the high level. That might be because the expectation and want of the parents would be an outside factor pushing for the motivation to learn in the learners (Khien Wantaneeyatrakul, 2010). McClelland (1953) said that the parents' expectation towards the students was positively related to achievement motive and was a variable that could predict achievement motive. That may be because achievement motive is an internal push within a person that comes from many varied factors such as the

socialization of the parents. Parents with a high achievement motive would set a standard of excellence for work and tell their children their interests in the achievement of their children that in turn makes the children also have achievement motive.

### Recommendations

1. The results of the research found in order to operate according to the process of the “Achievement Motive Wins Success” activity set, the guidance teachers/the appointed teachers should use the principles of achievement motive support in the activity suitably and must operate according to the roles in the achievement motive support as specified in the manual. The teacher assistants are very important during the activity, apart from being the helper in the activity operations such as distributing and collecting various equipment in the activity, helping to conclude the matters of opinions received from doing the activities etc. and while doing the activity, some students may need help during conducting the activities so the teacher assistants must wait and help students in necessary cases all through the activity operations.

2. The guidance teachers/the appointed teachers who use the achievement motive support activity set should understand the objectives and methods in doing the 10 activities clearly before and should follow-up together with the classroom teachers and parents to see the changes in the students.

3. The research findings found the time used in each smaller activity was about 40 minutes. The time can be changed and the planning must be suitable for the number of participating students and some specific activity can also be applied and used in other suitable learning and teaching.

4. The findings also found when using the achievement motive support activity set with students, the activity set should be used twice per semester to really affect the changes in the achievement motive.

5. The activity set “Achievement Motive Wins Success” can be applied and used in the guidance activities such as Education Guidance, Vocational Guidance and Personal and Social Guidance to prevent problems and develop and support students to their full potentials and in every side so they can live in the society with others happily. Development in all sides will help students have good ideas and guidelines, with personal growth, good human relationship, with economic stability, responsible for themselves and be the good citizen of the country.

6. The activity set “Achievement Motive Wins Success” can be applied in the teaching and learning of student teachers such as in the courses concerning psychology for teachers, principle of guidance and learners development activities so the learners can see the examples in conducting activities for students and apply in their own teaching and learning management in the future but the teachers need to apply and adapt the activities so they are suitable for the students doing the activities too.

### Funding

This research received some funding from Lampang Rajabhat University and the author wishes to express the gratitude highly.

### References

- Bussayagorn Yothanak. (2010). **Development of school-age children ages 6-12 years**. Accessed March 25, 2015. Available from <https://www.gotoknow.org/posts/305078>  
<https://www.mua.go.th>.
- Carter, V. Good. (1973). **Dictionary of Education**. New York: McGraw-Hill Book.
- Chidapan Moonpon. (2009). **“Using activity sets according to McClelland’s theory to support and create academic achievement motive in secondary education level 3 students”** Master’s of Education, Phranakhon Rajabhat University.
- Chorlada Khwanmueang. (1998). **Guidance Activities in Classroom**. Bangkok: Wittayapat Printing.
- Ganittha Navarat. (2006). **“Development of format and strategies to support Thailand as the international educational center in South East Asia. Doctoral dissertation”** Department of Policy, Management and Leadership in Education, Chiulalongkorn University.
- Jaruso Sudkiri. (2011). **Analysis the causes and guidelines for problem solving Part 1**. Accessed March 25, 2015. Available from <https://www.gotoknow.org/posts/179909>.
- Krippendorff, Klaus. (1980). **Content analysis: An introduction to its Methodology**. California: Sage Publication.
- Khien Wantaneetrakul. (2010). **Educational Psychology**. Chiang Mai: Sor. Sapgarnpim Printing.
- McClelland, David C. (1961). **The Achievement Society**. New York: The Free Press.
- McCelland, David C. and Others. (1953). **The Achievement Motive**. New York: Spplenton Century Croffs, Inc.

National News of Thailand, Public Relations Department. (2013). **Operations prevention and correction of narcotics drug problems of high risk youth outside schools.**

Accessed March 25, 2015. Available from <http://nntworld.prd.go.th/drug/>.

Surang Khoatrakul. (2001). **Educational Psychology**. 5th ed. Bangkok: Chulalongkorn University Printing.

Thanet Khumgerd. (2009). **Problems of decreasing learning achievement of secondary education level 3 students, academic year 2007.** Accessed March 25, 2015.

Available from <https://www.gotoknow.org/posts/179909>.

Ueampon Linjarern. (2013). **Causal factors for low O-NET scores of primary education level 6 students and secondary education level 6 students.** Bangkok: National Educational Testing Institute (Public Organization).