

# The relationship between intrinsic and external motivation towards lesson implementation and application of physical education content among pre-service physical education teachers in Thailand

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## ABSTRACT

Accomplished physical education (PE) teachers recognize teachers' motivation, lesson implementation as well as the application of PE contents. This is because these affect teaching effectiveness in PE class. However, a previous study from Koonsri (2016) found that the teachers lacked motivation and focused on extra money or bonus from their teaching. In addition, because the pre-service PE teachers had poor experiences in teaching and controlling the classes, these issues affected the implementation and integration of the PE contents (Claypan, 2014; Kanchana, 2010). Thus, this study examines the relationship between teachers' motivation, lesson implementation, and application of PE contents among pre-service PE teachers in Southern Thailand. The instruments regarding teachers' motivation in terms of intrinsic and external motivation, lesson implementation, and application of PE contents were adopted from Tulyakul (2019). The respondents were 157 pre-service PE teachers in five universities in the border provinces of Southern Thailand. The result shows that there is a relationship between intrinsic and external motivation towards lesson implementation and the application of PE contents among the participants. Finally, there are proposed guidelines for the pre-service PE teachers to adjust and develop their teaching performance to enhance students' achievement in the future.

**Keywords:** Intrinsic motivation, external motivation, lesson implementation, application of physical education content, pre-service physical education teachers.

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## INTRODUCTION

The benefits of physical education (PE) have been universally acknowledged and recognized. This is because PE is able to develop the physical, mental, emotional, and social aspects, as well as the intelligence of children (Stark, 2017; Tulyakul, 2019). The Ministry of Education in Thailand understands the usefulness of PE and has added this subject to the Basic Education Core Curriculum for all students (Office of the Basic Education Commission, 2008). Even though every student in Thailand must study the PE subject from kindergarten until the university level, the finding from the survey in 2011 found that only 20% of all children in Thailand

exercised regularly (Thailand National Statistical Office, 2012). Perhaps, this issue comes from the low level of teaching effectiveness of PE teachers.

In Thailand, to graduate as a physical education major students need to complete their coursework for four years (eight semesters) and their practicum for one year (two semesters) in a school (Thaksin University, Faculty of Education, 2017). The pre-service PE teachers need to do many things during practicum, for example, teaching their classes for around 9-12 hours/week in sports coaching, and preparing the teaching plan, portfolio, and their research to submit to their university (Yala Rajabhat

University, 2018). Such tasks affect the motivations of pre-service PE teachers. Singhapiwat (2014) stated that if teachers have too many responsibilities in the school, it will lead to decreased motivation for teaching because of tiredness and being worn-out. Specifically, it reduces the teachers' intrinsic motivation, which refers to their enjoyment and happiness in their teaching. According to Tulyakul (2019), motivation for teaching has a direct relationship with teaching effectiveness among PE teachers. Similarly, Han et al. (2015) and Tulyakul et al. (2018) asserted that effective teaching can take place when teacher motivation is high. Thus, it is essential to study and investigate the motivation for teaching among pre-service PE teachers.

Not only the teachers' motivation (in terms of intrinsic and external motivation) are important to teaching of pre-service PE teachers but also employing the lesson plan and applying of PE content play an important role in the teaching and learning procedure. According to Morris and Hiebert (2017), planning of lessons is able to guide the teachers in organizing the content of what they are expected to teach their students. Additionally, Kron (2017) argues that lesson planning can help the teachers to require a step-by-step procedure in what they want to teach to their students. Moreover, Popeska and Jovanova-Mitkovska (2016) state that the integration of PE content with the other subjects foster supported learning in each subject area. However, the previous studies of Claypan (2014) and Kanchana (2010) found that the pre-service PE teachers were not able to control their classes, which were related to problems that affected the implementation of the lessons and the application of PE content. Consequently, it is vital and necessary to examine the lesson implementation and application of PE content of pre-service PE teachers to adjust the PE pedagogies in Thailand.

## LITERATURE REVIEW

### Intrinsic motivation

Intrinsic motivation refers to teachers' attentiveness and the pleasure that they find (Ryan and Deci, 2000). Such as, if the teacher feels happy during the teaching process, and does not desire a prize or any other rewards, then his regulation is intrinsic (enjoyment and happiness are the rewards) (Cherry, 2016; Filimonov, 2017). Example of the question as "When I try to find interesting subjects and new ways of teaching, I do so because it is fun to create new things" (Roth et al., 2007).

### External motivation

External motivation refers to teachers' motivation for teaching in terms of getting rewards and praises or avoiding the punishments. For instance, the teachers

perform their task (teaching) to gain extra money or to avoid unwanted punishments imposed by the school director if they failed to carry out the task (Anderson, 2016; Deci and Ryan, 2008). Example of the question as "When I invest effort in my work as a teacher, I do so because I do not want the principal to follow my work too closely" (Roth et al., 2007).

### Lesson implementation

Lesson implementation refers to teachers' ability to actualize the physical education lesson plan, and modify their teaching goals and strategies whenever necessary. This is crucial to face up to the challenges posed by students' interest, physical and cognitive abilities, besides to inform the objectives of the lesson plan to their students before teaching (Kyrgiridis et al., 2014; Westwood, 2016). Example of the question as "Do you have a teaching plan for each lesson?" (Kyrgiridis et al., 2014).

### Application of physical education content

Application of physical education content refers to the objectives that the teacher has set to teach in accordance with the curriculum. Example of the question as "Do you integrate issue like nutrition, obesity, smoking, drugs and tactics in your teaching?" (Kyrgiridis et al., 2014).

### Objective of the study

This study examine the relationship of intrinsic and external motivation toward lesson implementation and the application of physical education contents with pre-service physical education teachers in five universities in the border provinces of Southern Thailand.

### Research hypothesis

Ho1: There is no significant relationship between intrinsic motivation and lesson implementation.

Ho2: There is no significant relationship between external motivation and lesson implementation.

Ho3: There is no significant relationship between intrinsic motivation and application of physical education contents.

Ho4: There is no significant relationship between external motivation and application of physical education contents.

## METHODOLOGY

### Population

To achieve the objectives in this study, all population was

to collect data. The population in this study involved 157 pre-service physical education teachers at five universities in border provinces in Southern Thailand (Table 1). Also, they were doing practicum in the primary and secondary schools in these areas.

### Instruments of the study

The questionnaire adapted from Tulyakul (2019) was used to collect data in this study. Because this questionnaire focuses on PE teachers and has appropriate to collect data in this study. The questionnaire consisted of five parts. The first part related to the background of the participants such as age, gender, and institution, among others. The second and third parts were correlated with lesson implementation and application of PE content, while the fourth and last parts were about external and intrinsic motivation. In order to examine the quality of the questionnaire the researcher conducted a pilot test with 30 pre-service PE teachers at Nakhon Si Thammarat Rajabhat University before the actual data collection. Based on the pilot test, the second,

third, fourth, and fifth parts had high reliability values of 0.84, 0.71, 0.86 and 0.78, respectively. According to Hair et al. (2017), an acceptable reliability value exceeds 0.70. Thus, this questionnaire was employed to collect data in the current study. To prevent violations of privacy and ethics of human research, this questionnaire does not specify the first and last names of the respondents.

### Data collection method

This study employed the survey research technique to collect data. Two methods to collect data were used namely self-administered questionnaire method and sent by post mail service technique.

As can be seen in Table 2, a total of 157 copies of the questionnaire were distributed to 157 pre-service PE teachers. Of this total, 145 were returned while twelve copies were not returned. In addition, nine copies of the questionnaire were rejected because unreliability after screening the data. However, only 136 copies, that is, 86.62% of the questionnaire were correctly accomplished and used for analysis.

**Table 1.** Population of the study.

Universities	Provinces	Pre-service PE teachers
Thaksin University	Songkhla	30
Songkhla Rajabhat University	Songkhla	30
Prince of Songkhla (Pattani Campus)	Pattani	35
Yala Rajabhat University	Yala	27
Sport National University (Yala Campus)	Yala	35
Total 5	3	157

**Table 2.** Response rate of the questionnaire.

Response	Frequency/Rate	Percentage
Distributed Copies of Questionnaire	157	100
Returned Copies of Questionnaires	145	92.35
Questionnaires Copies not Returned	12	7.64
Incomplete Copies of Questionnaires	0	0
Rejected Copies Due to Unreliability	9	5.73
Retained Copies Questionnaires	136	86.62

## RESULTS

### Assessment of measurement model

This study used the Partial Least Squares-Structural Equation Modeling (PLS-SEM) model to analyze the data. Hair et al. (2017) stated that PLS-SEM is a complex and very popular technique currently in the field of social

science. In this procedure, there are two key steps in analyzing data, which are described in Figure 1. The first step shows the measurement model of the study.

### Analysis of the results of assessment model

Table 3 shows the results of the measurement model as

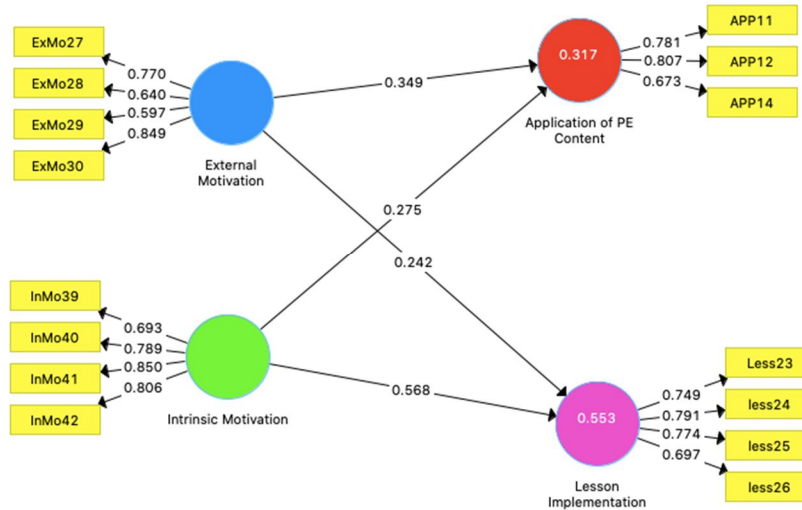


Figure 1. Evaluation of assessment model.

Table 3. Summary of standardized loading, composite reliability (CR), Cronbach's alpha, and average variance extracted (AVE).

Constructs	Indicators	Loading	Composite reliability	Cronbach's alpha	Average variance extracted (AVE)	Convergent validity
Lesson implementation	Lesson 23	0.749	0.840	0.838	0.568	Yes
	Lesson 24	0.791				
	Lesson 25	0.774				
	Lesson 26	0.697				
Application of PE content	APP 11	0.781	0.799	0.800	0.571	Yes
	APP 12	0.807				
	APP 14	0.673				
Intrinsic motivation	InMo39	0.693	0.866	0.865	0.619	Yes
	InMo40	0.789				
	InMo41	0.850				
	InMo42	0.806				
External motivation	ExMo27	0.770	0.809	0.814	0.520	Yes
	ExMo28	0.640				
	ExMo29	0.597				
	ExMo30	0.849				

follows: all the loading for indicators had values between 0.597 and 0.850. Hair et al. (2017) stated that the loading for indicators must be more than 0.40. The composite reliability and Cronbach's Alpha values for the four constructs were at 0.799 to 0.866 and 0.800 to 0.865 respectively. Hair et al. (2017) suggested that composite reliability and Cronbach's Alpha values below the threshold of 0.7 are not acceptable. In terms of AVE, the values were 0.520 to 0.619, and the value should be at least 0.5 for each variable to be accepted (Hair et al.,

2017). Thus, all the results indicate that the model of this study has completed the required criteria.

Table 4 shows that in the Fornell-Larcker's measure, the AVE square root values in the first order constructs should be more than the correlations among all the other variables (Fornell and Larcker, 1981). Thus, all the values of AVE in this study are greater than the values of all the constructs below it.

Table 5 shows the Heterotrait Monotrait criterion of correlation (HTMT). Henseler and Fassott (2010)

**Table 4.** The Fornell-Larcker criterion analysis for checking discriminant validity of first-order constructs.

	Application of PE content	External motivation	Intrinsic motivation	Lesson implementation
Application of PE content	<b>0.756</b>			
External motivation	0.520	<b>0.721</b>		
Intrinsic motivation	0.492	0.622	<b>0.786</b>	
Lesson implementation	0.559	0.596	0.719	<b>0.756</b>

AVE >  $r^2$  (Hair et al., 2017).

**Table 5.** The heterotrait monotrait (HTMT) criterion for discriminant validity.

	Application of PE content	External motivation	Intrinsic motivation	Lesson implementation
Application of PE content	-			
External motivation	0.521	-		
Intrinsic motivation	0.493	0.616	-	
Lesson implementation	0.567	0.593	0.720	-

HTMT < 0.85 (Henseler and Fassott, 2010).

suggested that the HTMT value of correlation should not be more than 0.85. Thus, in this study all the HTMT values were accepted because they are less than 0.85.

### Structural equation model assessment

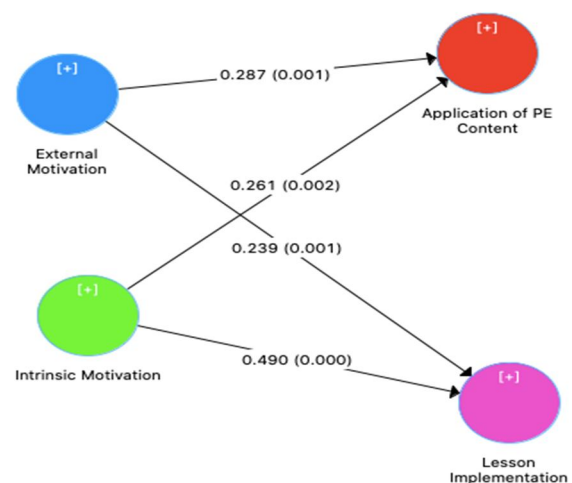
The outcomes of the structural model analysis are shown in Figure 2 which meets the criteria of the Evaluation of Assessment Model according to the PLS-SEM analysis procedure with the help of Smart-PLS Version 3.2.7.

Based on Table 6, the analysis of the all hypothesis in this study are as follows:

1. There is a significant relationship between intrinsic motivation and lesson implementation. ( $\beta = .490$ ,  $T = 6.852$ ,  $P < .05$ ).
2. There is a significant relationship between external motivation and lesson implementation. ( $\beta = .239$ ,  $T = 3.312$ ,  $P > .05$ ).
3. There is a significant relationship between intrinsic motivation and application of physical education contents. ( $\beta = .261$ ,  $T = 3.046$ ,  $P > .05$ ).
4. There is a significant relationship between external motivation and application of physical education contents. ( $\beta = .287$ ,  $T = 3.258$ ,  $P < .05$ ).

motivation and application of physical education contents. ( $\beta = .287$ ,  $T = 3.258$ ,  $P < .05$ ).

Thus, all hypotheses are significant.

**Figure 2.** Structural equation model assessment.**Table 6.** Assessment of significant relationship in first order structural model.

Hypothesis	Relationship	Std. Beta ( $\beta$ )	T Values	P Values	Finding
Ho 1	Intrinsic Motivation -> Lesson Implementation	0.490	6.852	0.001*	*Significant
Ho 2	External Motivation -> Lesson Implementation	0.239	3.312	0.001*	*Significant
Ho 3	Intrinsic Motivation -> Application of PE content	0.261	3.046	0.002*	*Significant
Ho 4	External Motivation -> Application of PE Content	0.287	3.258	0.001*	*Significant

Note: \* $p < .05$ .

## DISCUSSION

The results of this study show that there is a significant relationship between intrinsic and external motivation with lesson implementation. According to Tulyakul et al. (2020), most pre-service PE teachers' performance shows that they are experts in sports and physical education. Specifically, their passion and willingness to study are the main reasons to become competent PE teachers after their graduation. Those could have led to their intrinsic and external motivation for teaching. It is compulsory to submit lesson plans to their university and to their school during their practicum to assess their teaching effectiveness. Moreover, they have to follow the lesson plan since they are monitored by their mentor teachers or the university supervisors to evaluate their performance as well. The mentor teachers or university supervisors can recommend and complain if the pre-service teachers did not follow the lesson plan. Hence, those reasons could have led the pre-service PE teachers to employ the lesson plans in their classes. Consistent with Tulyakul et al.'s (2020) finding, the intrinsic motivation of pre-service PE had a positive relationship with lesson implementation. Lesson planning provides a step-by-step guide to instructors to delve into what they are teaching in their class (Kron, 2017). In addition, quality lesson plans inform the teachers what is important for their students when it comes to learning (Tulyakul, 2019). Bertills et al. (2018) state that physical education teachers should create teaching methods and lesson plans that are suitable for different students. Thus, enhancing the motivations of pre-service PE teachers led to use of lesson plan which is important to increase students' achievement.

In terms of the application of PE content, this study found that there is a positive relationship between intrinsic and external motivation with the application of PE content among pre-service PE teachers. This is because the pre-service PE teachers have to adjust the teaching method and integrate the PE content in appropriate situations and match the personal performance of the students. This matter is the part of the practicum which is evaluated by the mentor teacher and university supervisor. During practicum assessment, one's marks can be affected in case the integration or the application of PE content was not observed. Hence, it is important for the pre-service PE teachers to apply PE content to avoid deduction in one's marks. Moreover, the application of PE content is very important to pre-service PE teachers because PE is often related with other aspects of education, for example, intellectual, moral, aesthetic, and work education (Rodic, 2014). This finding is consistent with Tulyakul (2019) who found that there is a positive relationship between motivation for teaching and application of PE content among physical educators. Thus, this supports the finding that the pre-service PE teachers who apply PE content will affect student learning. For example, the pre-service PE teachers can

create teaching methods to integrate with music, arts, English language, or science studies to design activities in which students can enjoy physical activity while utilizing the skills required in multiple subject areas (Baird, 2015).

## Conclusion

The current study aimed to investigate the relationship between intrinsic and external motivation with lesson implementation and application of PE content among pre-service PE teachers in five universities in the border provinces of Southern Thailand. The study found that there is a positive relationship between intrinsic and external motivation with lesson implementation and application of PE content. These results could enhance both the intrinsic and external motivations of pre-service PE teachers and encourage them to improve their lesson plans (greater their plan) and apply PE content in order to support the PE teaching and learning process in the future.

## Limitation of the study

The current study is only focused on pre-service PE teachers in five universities in the border provinces of Southern Thailand. Hence, general conclusion should not be made for all universities in Thailand. Moreover, this study used quantitative research method and employed a questionnaire to collect data. For these reasons, the recommendations drawn from this study are limited.

## RECOMMENDATIONS

Future research should involve all universities in Southern Thailand or all universities in Thailand for more information, so that data can be compared with the results from other universities. Additionally, future research should use mixed methods to collect data and employ questionnaires and interviews with pre-service PE teachers in relation to other information, for example, school and university tasks to be submitted, number of teaching hours, and school facilities.

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