



## Relationship between Learning Motivation and Academic Emotions of Pre-service Early Childhood Teachers

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**Abstract:** Pre-service learning differs from classroom learning, an investigation is necessary to determine whether this logic is applicable to Pre-service early childhood teachers. Accordingly, we adopted a random sampling method for conducting a questionnaire survey, and 322 valid questionnaires were retrieved. Causal path analysis was conducted using learning motivation as the independent variable and positive and negative academic emotions as the dependent variables. The results show that learning motivation has no effect on positive academic emotions, although it has a positive effect on negative academic emotions. The academic emotions experienced in Pre-service learning differ from the emotions experienced in classroom learning. Our findings indicate that before commencing teaching practice, Pre-service early childhood teachers may have overly optimistic attitudes regarding teaching training, and they may have strong aspirations to become qualified teachers through studying. However, this overly optimistic self-cognition could cause them to experience anxiety in real teaching situations.

**Keywords** Pre-service early childhood teacher, Learning motivation, Academic emotions

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## 1. Introduction

Teaching practice is a crucial path through which Pre-service teachers become socialized as teachers, and it is a key period during which the quality of their teaching is established (Epstein and Dygdon 2006; Larson, Anne 2005; Ni Chang 2007). Teacher training comprises three successive stages: initial teacher training, induction, and continuing professional development. Among these phases, the initial training phase is crucial to teacher socialization. During this phase, teacher candidates become Pre-service teachers, enter the teaching domain, combine theory and practice, and earn their certification by demonstrating professional skills. Pre-service early childhood teachers play the roles of both student and teacher, which typically hinders them from adapting to their intended roles. Moreover, their willingness to teach and willingness to continue teaching are deeply affected by the successes and failures they experience during the initial teacher training stage (Epstein and Dygdon 2006).

In Taiwan, teaching practice is a necessary process for training early childhood teachers. In their dual role, Pre-service early childhood teachers encounter various people and events, and the learning environment and contents may differ from what they have learned about in classroom learning. Pre-service early childhood teachers must learn to teach young children, communicate with the children's parents, and manage administrative tasks related to their work. In addition, they must continually adjust their attitudes and learning methods, which is crucial in combining theory and practice. Pre-service learning is a transitory period during which Pre-service teachers may experience depression and self-doubt because of the many situations that they cannot handle or are beyond their expectations, and these feelings can manifest as

various negative emotions, such as anxiety, fear, isolation, and even trauma (Epstein and Dygdon 2006). Emotions play a crucial role in learning, affecting both the learning interests and achievements of students (Gonul 2007; Pekrun 2005; Pekrun et al. 2006; Wentzel 2003). The emotional experiences of students affect both their learning effectiveness and the teachers' teaching (Goetz, Pekrun, Hall, and Haag 2006).

Previous studies have shown that the learning motivation of students is affected by their emotions while learning (Järvenoja and Järvelä 2005; Pekrun et al. 2002; Schutz, Davis, and Schwanenflugel 2002). High learning motivation positively predicts positive learning emotions and low learning motivation positively predict negative academic emotions. However, academic emotions are domain-specific because emotional responses vary from subject to subject (Pekrun et al. 2002; Rubie-Davies 2006; Västfjäll, Gärling, and Kleiner 2004). Pre-service early childhood teachers are teachers in the Pre-service domain; however, they are still students learning to teach young children, communicate with children's parents, and manage administration works, all of which differ from what they have encountered in classroom learning. Therefore, we must investigate whether the foregoing discussion is applicable to Pre-service early childhood teachers. This study may serve as a reference for enhancing teacher-training processes to avoid teaching practice diminishing Pre-service teachers' willingness to teach, which would be a waste of educational resources. The research objectives are listed as follows:

- To explore the current status of Pre-service early childhood teachers' learning motivation and academic emotions.
- To explore the relationship between learning motivation and academic emotions in

the context of Pre-service early childhood teachers.

## **2. Literature Review**

### **2.1 Definition of learning motivation and related studies**

Many scholars in the field of educational psychology have reached the consensus that student learning effectiveness is correlated with student learning motivations (Midgley et al. 1998; Nicholls 1984; Pintrich and Schunk 1996; Pekrun et al. 2002, 2007; Weiner 1990). Consequently, the perspective of arousing students' learning motivation, improving teachers' teaching abilities, and motivating students to willingly supervise themselves is gradually becoming more prevalent. Previous motivation-related studies have emphasized the satisfaction of needs in instinct theory (Sternberg 2004; James 1890) and the mechanisms of stimulus-response theory (Schunk, Pintrich, and Meece 2008). However, previous studies on motivation have gradually developed into cognitive theories with varying explanations and views toward events and objects (Eccles et al. 1983).

Motivation is a complex concept involving various internal forces, such as instinct, drive, habit, needs, and goals, and is frequently used to explain the success or failure of complex tasks. Motivation refers to a process rather than an outcome; in other words, it is an immanent factor preceding physical and psychological activity. Motivated activity arouses and maintains a person's drive toward achieving goals (Brown 1989; Schunk et al. 2008).

The theory of cognitive and motivational mediators (Pekrun 1992) purports that the learning motivation of students involves intrinsic academic task motivation, extrinsic

academic task motivation, and social motivation. Intrinsic academic tasks motivation refers to the self-identified value derived from the pleasure that students gain from learning, whereas extrinsic academic task motivation refers to the outcome, added value, and esteem value gained by participating in an activity. In a study on achievement motivation applying a social expectancy-value model, Eccles et al. (1983) proposed that people perform an activity according to its work value, where activities are assigned a higher work value when they provide greater satisfaction in fulfilling individual needs and achieving their goals. According to the expectancy-value model (Eccles et al. 1983; Wigfield and Eccles 2000), learning involves three motivational factors: expectancy (i.e., a student's belief that they can complete an academic task), value (i.e., a student's goals and belief regarding the importance of and interest in an academic task), and affection (i.e., a student's emotional responses to an academic task).

The control-value theory of achievement emotions (Pekrun et al. 2002, 2007) posits that a person's belief regarding goal achievement affects their locus of control and value of belief, thus affecting the self-assessment of cognition. Locus of control refers to people's subjective assessments regarding causal connection; it is the extent to which students believe that they possess the abilities and skills to complete an assigned task, including their self-efficacy, expectancy of success, perceived ability, and attribution (Pintrich 1999). Value of belief refers to the possible value of a situation, action, or outcome for learners, which includes internal and external values. Internal values refer to the value of a situation, action, or result, whereas external values involve the acquisition of other valuable results.

The aforementioned assertions imply that the learning motivations of Pre-service early childhood teachers involve work values and locus of control. Work values refer to

a student's belief regarding the goals and importance of education, as well as their interest in learning (e.g., intrinsic and extrinsic motivation, the goal of learning, performance goals, work values, and intrinsic interests). Ames and Archer (1988) and Eccles et al. (1983) have reported that students have greater metacognitive awareness and are more willing to work hard when they believe that the assigned academic tasks are fun and important. Those studies have shown that students who believe that they can engage in more metacognition adopt more cognitive strategies and are more persistent when performing tasks. Learners affirm that they possess high efficacy in managing certain academic tasks or events based on their past experiences, which is effectively a self-assessment of their abilities. This study adopted work value and locus of control to represent learning motivation and as the measuring indicators of the learning motivation construct.

## 2.2 Definition of academic emotions and related studies

Emotions are subjective psychological cognitive state characterized by the complex interaction between subjective and objective factors, and they are regulated by the nervous system and hormones. Emotions function as a force that motivates people to achieve their goals. However, the accuracy of a person's self-assessment of an evoked emotion (the purpose and type of emotional reaction) determines whether that emotion provides adequate assistance in achieving goals and generating healthy adaptive behaviors (Lindquist, Barrett, Bliss-Moreau, and Russell 2006; Scherer 2005). Barrett, Mesquita, Ochsner, and Gross (2007) stated that the experience of emotion emerges following a cognitive event, and emotion is a state that is generated by emotional

constraints caused by certain objects or events. Accordingly, emotion is a subjective state of feeling; in other words, emotion is a brief but intense feeling generated by specific stimuli.

The role of emotions in student learning was discussed at the 1998 annual conference of the American Education Research Association under the theme “the role of emotions in student’s learning and achievement.” Various discussions and explorations regarding the possible effects of emotion on learners were held. By then, Western Academia and professional practitioners had gradually started to pay attention to students’ different experiences of emotions in learning. The emotions that students experience while learning (i.e., academic emotions) are domain-specific because different subjects evoke distinct emotional responses (Pekrun et al. 2002; Rubie-Davies 2006; Västfjäll et al. 2004).

Pekrun proposed the theory of cognitive and motivational mediators in 1992 and clearly classified various academic emotions that are experienced while learning. Different academic situations, such as work-related situations and interpersonal interactions in certain social situations, elicit different achievement emotions. Work-related situations include various situations of learning through work, and the emotions that manifest in these situations can be divided into concurrent emotions (i.e., emotions evoked while learning), retrospective emotions (i.e. emotions evoked after learning), and prospective emotions (i.e., emotions evoked following a person’s self-assessment of an activity and its result prior to learning). For example, hope is a positive work-related prospective emotion, boredom is a negative work-related prospective emotion, empathy is a positive social emotion, and anger is a negative social emotion.

Pekrun (2000) proposed the control-value theory of achievement emotions and hypothesized that environmental variables indirectly affect academic emotions through the cognitive assessments of learners. In other words, learners generate various achievement emotions in response to environmental variables and control- and value-related cognitive mediation. However, Pekrun et al. (2007) indicated that emotions can be categorized according to their degree of activation and valence, and further argued that self-focused topics in learning elicit specific emotions in response to learning achievements. Accordingly, Pekrun et al. (2007) proposed a three-dimensional taxonomy for classifying achievement emotions and argued that the academic emotions of students differ according to the focus of a topic. In other words, the emotions evoked by students' focus on learning activities and learning results are different. For example, while topic of focus is on solving mathematical problems, students experience the positive activating emotion of enjoyment, the positive deactivating emotion of relaxation, the negative activating emotions of anger and frustration, as well as the negative deactivating emotion of boredom. However, when the topic of focus is shifted to their performance in answering those problems, students typically experience joy, hope, pride, and gratitude (positive activating emotions), contentment and relief (positive deactivating emotions), anxiety, shame, and anger (negative activating emotions), and sadness, disappointment, and hopelessness (negative deactivating emotions).

Specifically, the classification of emotions can be understood in terms of mental cognition and the process of feeling. Additionally, the energy and the force of an individual feeling or the timing at which a feeling is evoked are also considered classifiers of emotions. Mental cognition is divided into positive and negative



enjoyment or enjoyment emotions. The process of feeling generates distinct feelings from the correlation between the feeling-evoking events and the individual or the society or from the different individual focus on events. To explore the formation of the academic emotions of Pre-service early childhood teachers, this study adopted the dimensions of activation and valence to classify emotions into the following four types: positive activating emotions, positive deactivating emotions, negative activating emotions, and negative deactivating emotions.

### 2.3 Effect of learning motivation on academic emotions

Pekrun et al. (2002, 2006, 2007) and Schutz et al. (2002) have reported that people's control and value appraisals are critical determinants of their academic emotions. Deci and Ryan (1985) and Vallerand, Fortier, and Guay (1997) reviewed previous studies and found that intrinsic motivation and positive emotion are correlated. Ryan and Connell (1989) proposed that intrinsic motivation and joy are highly correlated. Moreover, Patrick, Skinner, and Connell (1993) asserted that intrinsic motivation correlated positively with positive emotion and negatively with negative emotion. In a study on the self-regulation of academic emotions, Pekrun et al. (2002) reported that high achievement expectations, heavy achievement pressure, intense class competition, ineffective feedback, and the enforcement of a penalty system were highly correlated with achievement anxiety. Järvenoja (2005) interviewed 18 high school students regarding their learning processes and observed a correlation between emotion and learning motivation. The findings of that study indicated that the students' emotions were generated in response to the self, work expectations, commitments, work content,

and their social environment.

This literature review shows that learning motivation affects learning emotion. Although Pre-service early childhood teachers are teachers in the Pre-service domain, they are also students. The self-assessment of emotions and cognitive events is subject to change through personal growth and social experience (Kleef 2009; Zhou and Chen 2009). The learning environment and content in teaching practice and in classroom learning differ because Pre-service teachers encounter different people and events during their teaching practice; thus, we must further explore whether the academic emotions experienced in teaching practice and classroom learning are the same.

Based on this discussion, we hypothesized that learning motivation positively predicts positive academic emotions and negatively predicts negative academic emotions. Their causal relationship was examined using a path analysis.

### **3. Research Methodology**

This study adopted a learning motivation scale for Pre-service early childhood teachers, a positive academic emotions scale, and a negative academic emotions scale to explore and explain the relationship between the learning motivation and academic emotions of Pre-service early childhood teachers. SPSS Version 17.0 was used to determine the correlation coefficients among variables and AMOS Version 17.0 was used to construct a causal model and perform a path analysis.

#### **3.1 Participants**

This study recruited third-year university students who engaged in teaching training at kindergartens during their summer vacation. A pilot sample group was adopted to explore the reliability and validity of the self-constructed research instruments ( $N = 134; f = 134$ ); and another sample group was used for conducting the official questionnaire survey ( $N = 322; f = 322$ ).

### 3.2 Research instruments

#### 3.2.1 *Learning motivation scale*

This study incorporated the assertions of Järvenoja and Järvelä (2005), Pekrun Goetz and Titz (2002), and Schutz et al. (2002), and adopted work value and locus of control as the indicators for measuring learning motivation. Work value refers to an individual's subjective judgment of the importance or significance of specific people or events, and locus of control refers to an individual's selective choice and personal preferences.

The learning motivation scale comprised the two subscales of work value (five questions) and locus of control (three questions), which were measured using a 6-point Likert scale. An item analysis of the correlation between each question and the total scale yielded coefficients ranging from 0.593 to 0.853. For the validity analysis, principal axis factoring was used to extract the main factors, and oblimin rotation was adopted for oblique rotation; the factor loadings of each variable was confirmed and the eigenvalues were set as larger than 1.00. Following rotation of the factors, the absolute

pattern loading values of the factors associated with all eight questions in the scale ranged from .620 to .878. Two extracted factors, Work Value and Locus of Control, respectively explained 64.34% and 4.70% of the total variance (total = 69.04%). Regarding the reliability test, the learning motivation yielded a Cronbach's  $\alpha$  of .95, with a split-half reliability of .97; Work Value and Locus of Control yielded Cronbach's  $\alpha$  coefficients of .891 and .906, with split-half reliability values of .923 and .893, respectively. Because the Cronbach  $\alpha$  coefficients were higher than .70, indicating acceptable reliability and validity (Nunnally 1978); accordingly, all of questions items were retained in the official questionnaire survey.

### *3.2.2 Academic emotions scale*

Positive academic emotions and negative academic emotions were adopted as the dimensions of the academic emotions scale. The positive academic emotions scale comprised the two subscales of positive activating emotions (five questions) and positive deactivating emotions (six questions); similarly, the negative academic emotions scale comprised negative activating emotions (four questions) and negative deactivating emotions (four questions). All items were measured using a 6-point Likert scale. The validity analysis for both of these scales is described in the previous subsection.

In the item analysis of positive academic emotions scale, the correlation of each question with the total scale was .435 to .717. Regarding the validity analysis, after rotation of the factors, the absolute pattern loading values of the factors associated with all 11 questions in the scale ranged from .493 to .918. The two extracted factors, Positive

Deactivating Emotions and Positive Activating Emotions, respectively explained 44.66% and 15.01% of the total variance (total = 59.67%). Regarding the reliability test, the positive academic emotions scale yielded a Cronbach's  $\alpha$  coefficient of .88, with a split-half reliability of 0.94; Positive Deactivating Emotions and Positive Activating Emotions respectively yielded Cronbach  $\alpha$  coefficients of .88 and .88, with a split-half reliability values of .86 and .92. These results indicated that the scale exhibited acceptable reliability and validity; accordingly, all question items were retained.

An item analysis of the negative academic emotions scale revealed that the correlations between the individual questions and the full scale ranged from .255 to .497. Regarding the validity analysis, the absolute pattern loading values of the factors associated with all eight questions in the scale ranged from .340 to .901. Two extracted factors, Negative Activating Emotions and Negative Deactivating Emotions, respectively explained 29.86% and 24.02% of the total variance (total = 53.88%). The test for reliability yielded a Cronbach's  $\alpha$  coefficient of .73, with a split-half reliability of .84; Negative Deactivating Emotions and Negative Activating Emotions respectively yielded Cronbach's  $\alpha$  coefficients of .63 and .74, with split-half reliability values of .88 and .81. All questions were exhibited acceptable reliability and validity and were thus retained.

### 3.3 Conceptual framework

To explore the effects of learning motivation on academic emotions, this study adopted learning motivation as the independent variable, and positive academic emotions and negative academic emotions as latent variables. The measuring indicators

of learning motivation were work value ( $X_1$ ) and locus of control ( $X_2$ ); those of positive academic emotions ( $\eta_1$ ) were positive activating emotions ( $Y_1$ ) and positive deactivating emotions ( $Y_2$ ); and those of negative academic emotions ( $\eta_2$ ) were negative activating emotions ( $Y_3$ ) and negative deactivating emotions ( $Y_4$ ).

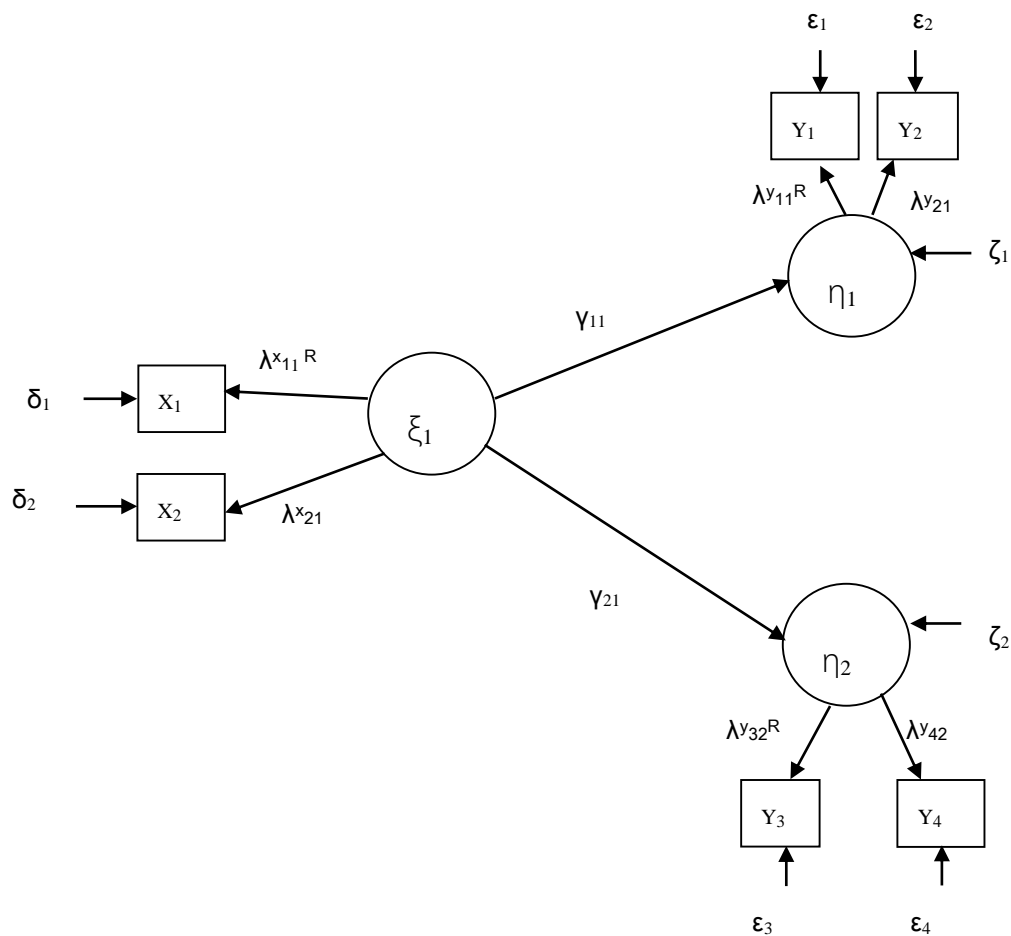


Figure1. Path diagram showing the causal model of learning motivation and academic emotions of Pre-service early childhood teachers

Note:  $R$  is the reference indicator for the path.

## 4. Results and Discussions

### 4.1 Descriptive statistics and intervariable correlations of learning motivation and academic emotions

Figure 1 shows a path diagram of investigated causal model based on the responses of the Pre-service early childhood teachers who participated in this study, and Table 1 shows the analysis results: work value ( $M = 5.12$ ;  $SD = 0.86$ ) and locus of control ( $M = 5.12$ ;  $SD = 0.76$ ); the positive academic emotions of the teachers: positive activated emotions ( $M = 5.39$ ;  $SD = 0.68$ ) and positive deactivated emotions ( $M = 5.38$ ;  $SD = 0.68$ ); the negative academic emotions of the teachers: negative activated emotions ( $M = 4.38$ ;  $SD = 0.87$ ) and negative deactivated emotions ( $M = 4.94$ ;  $SD = 0.95$ ). The high scores for learning motivation, positive academic emotions, and positive academic emotions indicated that the research participants experienced intense emotions (both positive and negative) and were highly motivated to learn when engaged in their teaching training at kindergarten.

The correlations among the variables of the three dimensions of learning motivation, positive academic emotions, and negative academic emotions yielded coefficients ranging from 0.181 to 0.768, all of which were statistically significant. These results show that high levels of learning motivation increase both the positive and negative academic emotions of Pre-service early childhood teachers engaging in teaching practice, and high levels of academic emotion increased their negative emotions.

Table1. Matrix showing the variances of learning motivation and academic emotions of Pre-service early childhood teachers ( $N = 322$ )

Dimension	Variable	Average	Standard Deviation					
				X <sub>1</sub>	X <sub>2</sub>	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>3</sub>
Learning Motivation( $\xi_1$ )								
	X <sub>1</sub>	5.12	0.86	1.000				
	X <sub>2</sub>	5.12	0.76	.768**	1.000			
Positive Academic Emotions ( $\eta_1$ )								
	Y <sub>1</sub>	5.39	0.68	.493**	.539**	1.000		
	Y <sub>2</sub>	5.38	0.68	.497**	.536**	.779**	1.000	
Negative Academic Emotions ( $\eta_2$ )								
	Y <sub>3</sub>	4.38	0.87	.168**	.137*	.205**	.279**	1.000
	Y <sub>4</sub>	4.94	0.95	.181**	.127*	.227**	.263**	.610** 1.000

\* $p < .05$     \*\* $p < .01$

#### 4.2 Significance testing of the evaluated parameters of learning motivation and academic emotions

Maximum likelihood estimation was performed using AMOS Version 7.0 to evaluate all of the parameters in order to test the effects of learning motivation on positive and negative academic emotions.



Table 2. Significance testing of evaluated parameters of causal model learning motivation and academic emotions of Pre-service early childhood teachers

Parameter	Estimated Value	Standard Error	t value	Standardized Coefficients	Parameter	Estimated Value	Standard Error	t value	Standardized Coefficients
$\lambda^{x_{11}}$	1.00	---	---	.85	$\delta_1$	.21	.03	8.47*	.72
$\lambda^{x_{21}}$	.95	.05	18.96*	.91	$\delta_2$	.10	.02	5.80*	.82
$\lambda^{y_{11}}$	1.00	---	---	.88	$\varepsilon_1$	.11	.02	5.13*	.77
$\lambda^{y_{21}}$	.99	.06	16.70*	.89	$\varepsilon_2$	.10	.02	6.05*	.78
$\lambda^{y_{32}}$	1.00	---	---	.76	$\varepsilon_3$	.32	.09	4.87*	.58
$\lambda^{y_{42}}$	.88	.12	6.26*	.80	$\varepsilon_4$	.32	.10	3.30*	.64
$\gamma_{11}$	.16	.10	1.77	.19	$\zeta_1$	.17	.06	7.67*	.54
$\gamma_{21}$	.18	.09	1.98*	.17	$\zeta_2$	.46	.06	5.07*	.18

Note: (1) Unlisted standard errors are reference indicators; (2) When the  $t$  value is larger than 1.96, then

\* $p < .05$

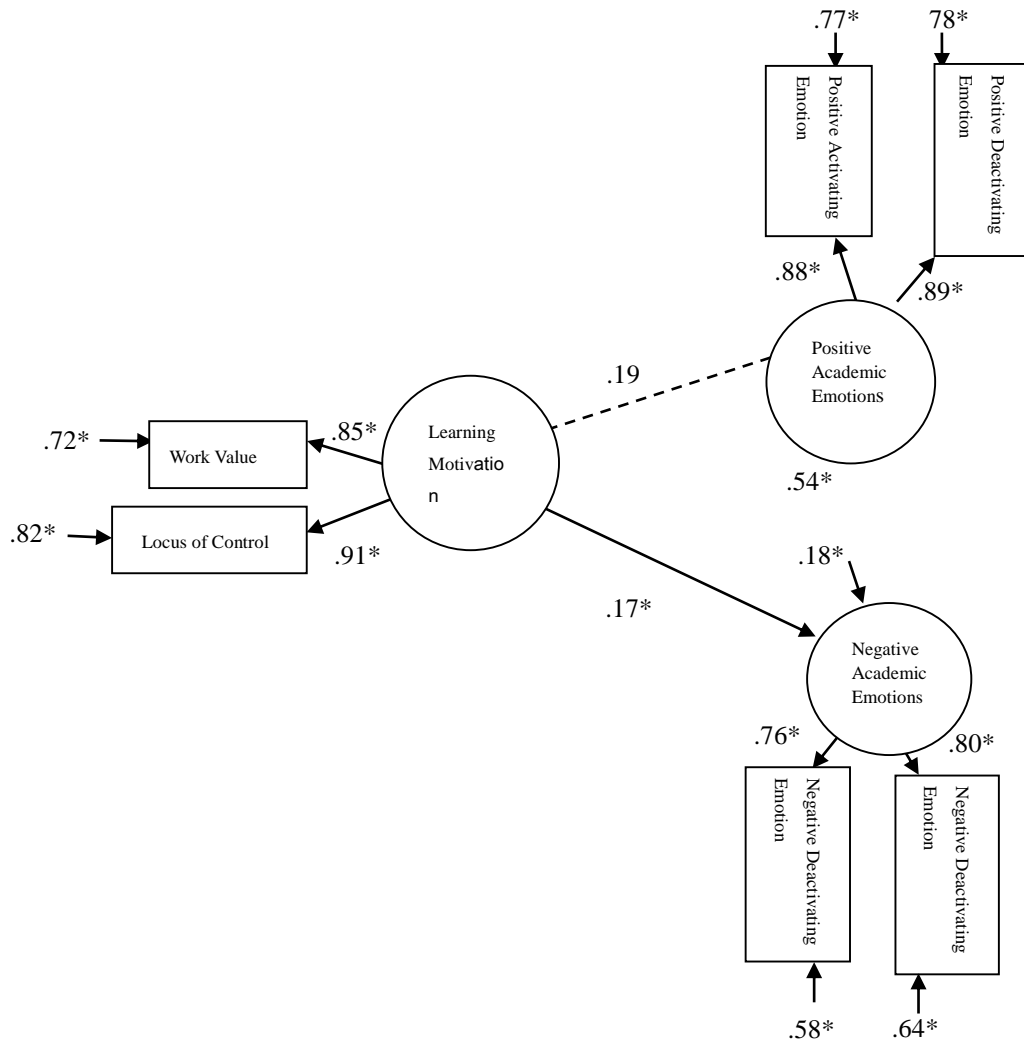


Figure 2. Standardized path diagram of the causal model of learning motivation and academic emotions of Pre-service early childhood teachers

Note: \* $p < .05$

Figure 2. Standardized path diagram of the causal model of learning motivation and academic emotions of Pre-service early childhood teachers

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Figure 2 illustrates that the learning motivation of the Pre-service early childhood teachers exerted no effect on their positive academic emotions, although it positively predicted their negative academic emotions. In contrast to these results, in other words, learning motivation did not affect the positive academic emotions of Pre-service early childhood teachers during their teaching training process at kindergartens, whereas high learning motivation increased the negative academic emotions. Patrick et al. (1993) and Standage, Duda, and Ntoumanis (2005) reported that learning motivation correlated positively with positive emotions and negatively with negative emotions. However, the results of this study indicated that learning motivation increases negative emotion. A possible explanation for that is that Pre-service teachers tend to be overly optimistic before they begin teaching practice (Weinstein 1989); consequently, highly motivated teachers are more likely to encounter challenges when they are in actual teaching situations. The academic emotions that are generated through teaching practice and classroom learning occur for various reasons. Pre-service early childhood teachers with high learning motivation are more susceptible to increased negative emotions when they are overly optimistic regarding their work value and locus of control. In a study on the self-regulation of academic emotions, Pekrun et al. (2002) reported that high achievement expectations, heavy achievement pressure, intense class competition, ineffective feedback, and the enforcement of a penalty system correlated with achievement anxiety. Similarly, high learning motivation among Pre-service early childhood teachers may cause them to experience anxiety. The results thus indicate that highly motivated Pre-service early childhood teachers may inadvertently evoke negative emotions, such as anxiety, simply because they have excessively high self-requirements.

## 5. Conclusion and Recommendations

The path analysis conducted in this study indicated that learning motivation had no direct effect on positive academic emotions, although it positively predicted negative academic emotions. Correlation analyses revealed that learning motivation correlated positively with both positive and negative academic emotions. The observed relationship between learning motivation and positive academic emotions is generally consistent with the results reported by Patrick et al. (1993) and Standage et al. (2005), which is that learning motivation affects learners' positive academic emotions. However, in contrast to the findings of previous studies, the results of this study indicated that an increase in learning motivation causes an increase in negative emotions. In other words, Pre-service teachers may experience anxiety if they are overly optimistic about their teaching practice (Weinstein 1989). Consequently, Pre-service teachers who aspire to become certified teachers and are overly optimistic before they commence teaching may experience a heightened sense of anxiety when facing actual teaching situations. To address this problem, Pre-service teachers should maintain realistic expectations regarding their teaching abilities in order to decrease or avoid their negative emotions.

The teaching practice of early childhood teachers is the induction process in teacher education, during which Pre-service teachers learn the professional skills of a qualified teacher (Epstein and Dygdon 2006), including child counselling, classroom management and instruction, and administrative responsibilities (Epstein and Dygdon 2006; Ni Chang 2007). The learnings are diverse and extensive. Overly motivated Pre-service early childhood teachers may put additional effort into various tasks;

however, their anxiety increases when they are unable to complete these tasks. Pre-service is a transitional period during which Pre-service teachers may experience various negative feelings, such as depression and self-doubt, because of the many situations that they cannot handle or are beyond their expectations, thereby inducing a range of negative emotions, including anxiety, fear, isolation, and even trauma (Epstein and Dygdon 2006). Some negative emotions are aroused by high learning motivation. To prevent these negative emotions from manifesting, teachers in the field of teacher education should strengthen Pre-service early childhood teachers' professional training before allowing them to commence teaching. Accordingly, we offer the following recommendations for the field of teacher education:

- (1) Strengthen the scenario simulation in teaching before allowing Pre-service teachers to commence teaching practice. Pre-service early childhood teachers should practice teaching through demonstrations at kindergartens while they are studying to become a teacher. This would provide them with a realistic understanding of situations that can occur while teaching at a kindergarten, including the reactions of young children. Such demonstrations would allow their strengths and weaknesses to be thoroughly evaluated, and they could receive appropriate feedback and suggestions regarding how they can improve their teaching skills. This would enhance their confidence and prevent fears from manifesting when they commence teaching.
- (2) Arrange additional kindergarten visits for students studying in early childhood education and encourage them to attend symposiums with experienced early childhood teachers and kindergarten principals. This would enable the students to

become familiar with early childhood teaching practices and general kindergarten management.

This quantitative study was based on the results of a questionnaire surveys. However, students learn and approach their goals through self-value, work tasks, and social motivation; thus, experiences of such emotions cannot be fully measured and evaluated using such quantitative research data (Järvenoja and Järvelä 2005). Perceived emotion should be measured through individual description; in other words, research participants should be allowed to describe their emotions in their own words (Hoffman, Waggoner, and Palermo 1991; Govaerts and Grégoire 2008). Therefore, we recommend that future quantitative studies adopt qualitative interviews, through which the relationships between the learning and academic emotions of Pre-service early childhood teachers could be further clarified. A detailed account of their experiences could yield practicable suggestions that may benefit both Pre-service early childhood teachers and teachers in the field of teacher education.

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