

THE RELATIONSHIP BETWEEN TEACHER IMMEDIACY AND ACADEMIC ENGAGEMENT OF STUDENT TEACHERS

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Abstract

The primary purpose of this study is to investigate the relationship between teacher immediacy and academic engagement of student teachers. The quantitative research design and cross-sectional survey method were used in this study. Data were collected by using simple random sampling method. A total of 412 student teachers from Yangon University of Education participated in this study. The Chinese Teacher Immediacy Scale (Zhang & Oetzel, 2006) and the Utrecht Work Engagement Scale for Students (Schaufeli et al., 2006) were used as research instruments in this study. The results stated that student teachers could be classified into three groups of teacher immediacy: high group, moderate group and low group. The results revealed that there was no significant gender difference in teacher immediacy and its subscales. However, the findings indicated that there were significant differences in teacher immediacy and its subscales by education level and age. Regarding academic engagement, the findings indicated that student teachers could be classified into three groups: high group, moderate group and low group. The results revealed that the mean scores of male student teachers were higher than those of female student teachers in vigor, absorption and academic engagement. In addition, there were significant differences of academic engagement and its subscales by education level and age. Moreover, teacher immediacy was positively correlated with student teachers' academic engagement. Furthermore, teacher immediacy can predict student teachers' academic engagement.

Keywords: Immediacy, Teacher Immediacy, Academic Engagement

Introduction

The connection between students and their teachers holds immense significance. This bond not only influences academic performance but also shapes the overall learning experience. Teacher immediacy refers to the behaviors and communication strategies employed by educators to create a warm and supportive classroom environment. These actions can range from non-verbal cues to verbal affirmations, all aimed at fostering a sense of connection and rapport with students. Teacher immediacy has been positively associated with increased cognitive learning (Gorham, 1988; Allen et al., 2006) and positive student evaluations of immediate teachers (Witt et al., 2004; Frymier et al., 2008).

Teacher immediacy behaviours (e.g., close proxemics, direct body orientation, smiling and vocal varieties) are all found to be highly effective teaching behaviors (Pogue & Ahyun, 2006; York, 2013). Verbal immediacy is manifested, for example, by addressing the pupil by their name, using the collective pronouns ("our", "we"), verbal empathy. talking to pupils about topics selected by the pupils or sharing the teacher's personal experience (Gorham, 1988). Traditionally, teacher immediacy is transmitted non-verbally through smile, relaxed posture inclined towards the pupils, seeking eye contact, or variations in voice (Gorham, 1988). Conversely, if the teacher neglects eye contact, uses monotonous voice, does not smile, leans away from students, and does not show enough warmth in general, the development of a positive relationship between the teacher and a pupil is probably impossible.

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Teacher immediacy refers to the behaviors, both verbal and non-verbal, that seek to reduce the physical and psychological gaps between teachers and students. When teachers demonstrate warmth, friendliness, and accessibility, students are more likely to feel comfortable approaching them for their help and guidance. Teacher immediacy behaviours can enhance communication between teachers and students by using both verbal and non-verbal cues, such as maintaining eye contact, using gestures, and providing timely feedback, teachers can facilitate effective communication and understanding. Teacher immediacy behaviours have been found to positively impact on student motivation.

Previous studies indicated that a higher level of immediacy affects both the affective aspects of learning and cognitive learning (Richmond et al., 1987; Gorham, 1988; Zhang & Oetzel, 2006). According to York (2013), these rewarding behaviors can encourage students to become more attentive during the whole class. As such, how student teachers perceive their teachers' non-verbal behaviours is worthy of academic engagement. In educational contexts, teacher non-verbal immediacy is explained in terms of a set of behaviors, creating a sense of physical or psychological intimacy between teachers and learners (Allen et al., 2006). Their studies delve into the various dimensions of teacher immediacy, exploring its role in enhancing student motivation, participation, and overall academic success.

Today, educational institutions are facing many changes and developments. Universities try to provide their education according to the needs of students and society (Lee, 2020). Motivating students is one of the important challenges in improving the quality of education (Teo et al., 2022). As a strong predictor of students' performance and progress in school, academic engagement has attracted the attention of teachers and researchers in recent years (Derakhshan et al., 2022; Derakhshan & Fathi, 2023; Roxå & Marquis, 2019; Stoeber et al., 2011; Zeinstra et al., 2023). Academic engagement relates to the quality of how students connect or involve themselves in educational activities (Skinner et al., 2009). It is a kind of psychological investment that might influence learners' direct effort to learn, understand, and master the required knowledge and skills (Bradley-Dorsey et al., 2022).

Theoretical reflections in the review of existing literature indicate that positive and warm relationships between teachers and students are effective on various dimensions of academic engagement and also the sense of belonging to the school (Rojas & Abenavoli, 2023). It seems that the process that shows the effect of the teacher-student relationship on the academic engagement goes through the feeling of belonging to the school, and that the students' daily experiences in relation to their teachers in the academic environment have an effect on their sense of attachment to the school and further on their participation affects the academic activities (Breukelman et al., 2023). Very few studies are conducted to examine teacher immediacy and academic engagement of student teachers in Myanmar. Therefore, this study aimed at investigating teacher immediacy and academic engagement of student teachers.

Purpose of the Study

The primary purpose of the study is to investigate the relationship between teacher immediacy and academic engagement of student teachers. The specific objectives of this study are as follows.

- To examine the levels of teacher immediacy
- To examine teacher immediacy by gender, education level and age
- To examine the levels of student teachers' academic engagement
- To explore student teachers' academic engagement by gender, education level and age
- To investigate the relationship between teacher immediacy and academic engagement of student teachers
- To investigate the effect of teacher immediacy on student teachers' academic engagement

Definitions of Key Terms

Teacher immediacy. Teacher immediacy can be defined as behavior including verbal and non-verbal communication stimuli which provide a sense of proximity and reduce the perception of the psychological distance between the teacher and students or pupils (Zhang & Witt, 2016).

Engagement. Engagement is defined as a fulfilling and positive study-related state of mind that is characterized by three dimensions: absorption, vigor, and dedication (Schaufeli et al., 2002).

Academic engagement. Academic engagement is defined as a student's psychological and behavioral efforts and investment in learning, understanding or mastering skills, and knowledge in academic work (Fredricks et al., 2004).

Review of Related Literature

Teacher Immediacy

Andersen (1979) and Gorham (1988) found that teacher's immediacy positively influences student's motivation via its approach avoidance tendency. This theory posits that, "people approach what they like and avoid what they don't like" (Mehrabian, 1981, p.22). Mehrabian (1971, 1981) argues that individuals tend to be attracted (prefer, evaluate highly, and like) toward things and people they perceive positively; and tend to avoid (evaluate negatively, dislike, or do not prefer) people and things that they perceive negatively.

Mehrabian (1981) indicated that immediate communicators, through their behaviors, usually convey a message as if they like the person they are interacting with and that there is a positive relationship between them. Thus, Richmond et al. (1987) described immediacy as behaviors which not only increase physical and/or psychological proximity, but also add to the perceptual stimulation during interpersonal interaction. Approach avoidance, an element of the behavioural reinforcement/drive theory, describes immediacy as something a student either seeks out or feels comfortable while interacting with an instructor, or avoids and is apprehensive of the teacher (Weiner, 1992; Richmond et al., 1987). Where students are familiar, comfortable, and secure in a classroom environment, their avoidance tendency will be diminished (Christophel, 1990).

Previous research conducted by Martin et al. (1999) found that learners tend to avoid interaction with those teachers who are perceived by them as uncaring or uninterested. Imada and Hakel (1997) stated that greater liking attributes to greater immediacy. Immediacy behaviours enhance liking in a teacher-learner relationship in a classroom (Saechou, 2005). Previous studies indicated that teachers who display immediate behaviour are liked and viewed as more competent and motivated by students (Buhr et al., 1994). According to Mehrabian (1981), an individual contributes to the feelings of like/dislike via range of immediate behaviors, thereby

making the interactional/conversational partner either feel bad or good, negative, or positive regarding self.

Academic Engagement

According to Schaufeli et al. (2002), engagement can be characterized as “a fulfilling and positive study-related state of mind that is conceptualized by three dimensions, namely “absorption”, “vigor”, and “dedication”. Vigor relates to students’ sense of the high degree of mental resilience and energy while studying, their desire to exert and invest effort into their academic-related practices, their persistence in the face of learning barriers, and their positive approach to learning” (Alrashidi et al., 2016). The second dimension, dedication, is defined by students’ sense of “enthusiasm, significance, inspiration, challenge, and pride for engaging in their studies”, as well as their positive attitudes towards classroom activities (Ouweneel et al., 2014). Absorption, as the third dimension, is described as students feeling of being profoundly immersed and completely focused on their studies (Salmela-Aro & Upadaya, 2014).

Research Method

A quantitative research design and cross-sectional survey method were used in this study.

Participants of the Study

A total of 412 student teachers from Yangon University of Education was selected by using simple random sampling technique. All participants were selected from Yangon University of Education by the researcher, given a thorough explanation about the study asked if they wished to participate in the questionnaire response voluntarily with informed consent. The characteristics of the chosen number of participants are presented in Table 1.

Table 1 Characteristics of Participants for the Study

Education Level	Male	Female	Total
B.Ed. (First Year)	40	40	80
B.Ed. (Second Year)	40	40	80
B.Ed. (Third Year)	40	40	80
B.Ed. (Fourth Year)	40	42	82
B.Ed. (Fifth Year)	36	54	90
Total	196	216	412

Instruments

Teacher immediacy. Teacher immediacy was measured by the Chinese Teacher Immediacy Scale (CTIS: Zhang & Oetzel, 2006). This scale consists of 15 items which include three subscales; instructional immediacy (5 items), relational immediacy (6 items) and personal immediacy (4 items). All items are scored on a 5-point Likert scale (1= strongly disagree to 5 = strongly agree). The Cronbach’s alpha of the scale in this study was .760 that had adequate reliability to examine teacher immediacy.

Academic engagement. Academic engagement was measured with the Utrecht Work Engagement Scale for Students (UWES-9S) developed by Schaufeli et al. (2006). The scale comprises of 9 items which consist of three subscales; vigor (3 items), dedication (3 items) and absorption (3 items). All items are scored on a 7-point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree). The Cronbach’s alpha of the scale was .906 that had high reliability.

Instrumentation

All the measures used in this study were adapted to Myanmar language version. Then, expert review was conducted for face validity and content validity of the instruments. Next, the questionnaire was modified according to their suggestions and recommendations. And then, pilot study was conducted to test whether the wording of items, statements and instructions had their clarity in Myanmar language version and were appropriate to student teachers.

Research Findings

Levels of Teacher Immediacy

The mean and standard deviation of teacher immediacy was 61.04 and 6.59. Based on descriptive statistics of teacher immediacy, student teachers in this study were identified into three groups; 15.80% of student teachers with scores above one standard deviation from the sample mean were considered as high group; 74% of student teachers with scores between (+1) and (-1) standard deviation from the sample mean were grouped into moderate group; and the remaining student teachers of 10.20% who scored below one standard deviation from the sample mean were identified as low group (see Figure 1).

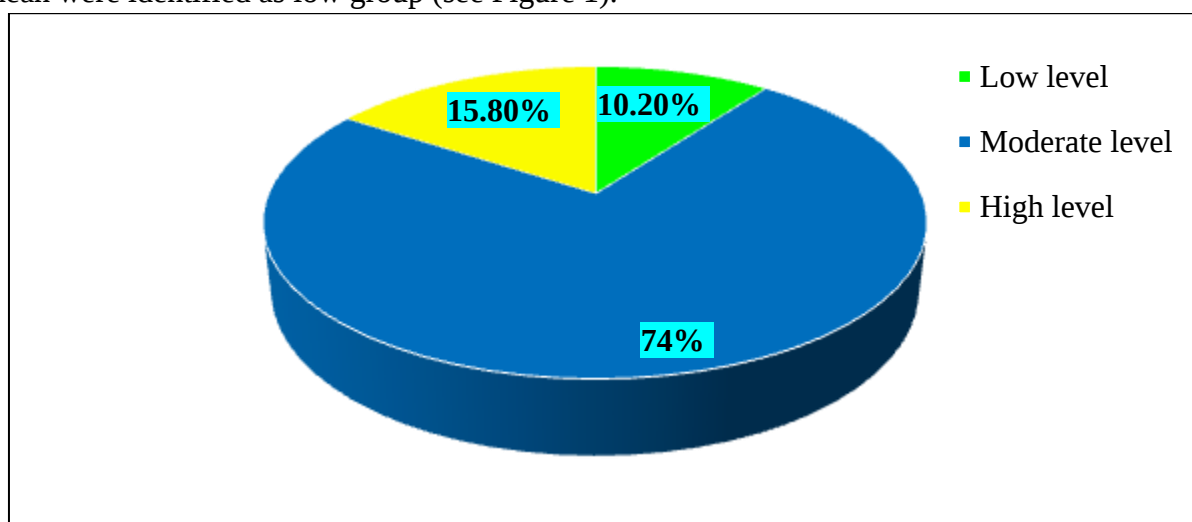


Figure 1 Three Different Groups of Teacher Immediacy

Comparison of Teacher Immediacy by Gender

To find out whether there were gender differences in teacher immediacy of student teachers, descriptive statistics and independent samples *t*-test was conducted (see Table 2). The result of independent samples *t*-test stated that there was no significant gender difference for teacher immediacy (total) and its all subscales.

Table 2 Means, Standard Deviations and Results of Independent Samples *t*-test of Teacher Immediacy by Gender

Variable	Gender	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Instructional Immediacy	Male	196	20.51	2.94	-1.461	410	.079
	Female	216	20.89	2.30			
Relational Immediacy	Male	196	23.80	2.86	2.175	410	.900
	Female	216	23.19	2.79			
Personal Immediacy	Male	196	17.03	2.05	1.666	410	.249
	Female	216	16.70	1.92			
Total Teacher Immediacy	Male	196	61.34	6.92	.851	410	.380
	Female	216	60.78	6.29			

Comparison of Teacher Immediacy by Student Teachers' Education Level

To make more detailed information on the difference of teacher immediacy by student teachers' education level, one-way Analysis of Variance (ANOVA) was conducted (see Table 3). ANOVA results indicated that there were significant differences of instructional immediacy, $F(4, 407) = 4.761$, $p = .001$, relational immediacy, $F(4, 407) = 5.135$, $p < .001$, personal immediacy, $F(4, 407) = 4.741$, $p = .001$ and teacher immediacy (total), $F(4, 407) = 5.921$, $p < .001$, with respect to student teachers' education level (see Table 3).

To obtain more detailed information for student teacher education level, post hoc test was carried out by Tukey HSD multiple comparison procedure for first year, second year, third year, fourth year and fifth year (see Table 4).

Table 3 Means, Standard Deviations, and ANOVA Results for Teacher Immediacy by Student Teachers' Education Level

Variable	Education Level	N	M	SD	F	p
Instructional Immediacy	First year	80	21.53	2.71	4.761**	.001
	Second year	80	21.10	2.33		
	Third year	80	20.64	2.69		
	Fourth year	82	19.89	2.75		
	Fifth year	90	20.44	2.44		
Relational Immediacy	First year	80	24.68	3.15	5.135***	.000
	Second year	80	23.55	2.39		
	Third year	80	23.29	2.99		
	Fourth year	82	22.96	2.77		
	Fifth year	90	23.01	2.58		
Personal Immediacy	First year	80	17.53	2.19	4.741**	.001
	Second year	80	16.93	1.68		
	Third year	80	17.05	2.29		
	Fourth year	82	16.37	1.82		
	Fifth year	90	16.47	1.73		
Teacher Immediacy (Total)	First year	80	63.73	7.42	5.921***	.000
	Second year	80	61.58	5.68		
	Third year	80	60.98	6.66		
	Fourth year	82	59.22	6.53		
	Fifth year	90	59.92	5.86		

** $p < .01$, *** $p < .001$.

Table 4 Results of Tukey HSD Multiple Comparison for Teacher Immediacy by Student Teachers' Education Level

Categories	(I) Education Level	(J) Education Level	Mean Difference (I-J)	p
Instructional Immediacy	First Year	Fourth Year	1.635**	.001
	Second Year		1.210*	.025
Relational Immediacy	First Year	Third Year	1.387*	.015
		Fourth Year	1.712**	.001
		Fifth Year	1.664**	.001
Personal Immediacy	First Year	Fourth Year	1.159**	.002
		Fifth Year	1.058**	.004
Teacher Immediacy(Total)	First Year	Fourth Year	4.505***	.000
		Fifth Year	3.803**	.001

* $p < .05$, ** $p < .01$, *** $p < .001$.

Tukey HSD test found that first year and second year student teachers had significantly higher than fourth year student teachers in instructional immediacy at the .05 and .01 levels. First year student teachers had significantly higher in relational immediacy than third year, fourth year and fifth year at the .05 and .01 levels. First year student teachers had higher in personal immediacy and teacher immediacy (total) than fourth year and fifth year at the .01 and .001 levels.

Comparison of Teacher Immediacy by Age

After examining the model fit of the obtained data to Analysis of Variance (ANOVA), to obtain more detailed information on the difference of teacher immediacy by age, one-way Analysis of Variance (ANOVA) was conducted (see Table 5).

ANOVA results indicated that there were significant differences of instructional immediacy, $F(2, 409) = 5.800, p = .01$, relational immediacy, $F(2, 409) = 3.415, p = .034$, personal immediacy, $F(2, 409) = 4.288, p = .014$ and total teacher immediacy, $F(2, 409) = 5.573, p = .004$, with regard to student teachers' age (see Table 5).

Table 5 Means, Standard Deviations, and ANOVA Results for Teacher Immediacy by Age

Variable	Age (Years)	N	M	SD	F	p
Instructional Immediacy	Below 20	146	21.19	2.53	5.800**	.003
	20-21	130	20.76	2.56		
	Above 21	136	20.14	2.71		
Relational Immediacy	Below 20	146	23.95	2.79	3.415*	.034
	20-21	130	23.38	3.02		
	Above 21	136	23.08	2.66		
Personal Immediacy	Below 20	146	17.15	1.97	4.288*	.014
	20-21	130	16.92	2.27		
	Above 21	136	16.47	1.65		
Teacher Immediacy (Total)	Below 20	146	62.29	6.61	5.573**	.004
	20-21	130	61.07	6.90		
	Above 21	136	59.69	6.06		

* $p < .05$, ** $p < .01$.

To obtain more detailed information for age, post hoc test was carried out by Tukey HSD multiple comparison procedure for below 20, between 20 and 21 and above 21 (see Table 6).

Table 6 Results of Tukey HSD Multiple Comparison for Teacher Immediacy by Age

Categories	(I) Age (Years)	(J) Age (Years)	Mean Difference (I-J)	p
Instructional Immediacy	Below 20	Above 21	1.052**	.002
Relational Immediacy	Below 20	Above 21	.864*	.028
Personal Immediacy	Below 20	Above 21	.680*	.011
Teacher Immediacy (Total)	Below 20	Above 21	2.596**	.003

* $p < .05$, ** $p < .01$.

Tukey HSD test found that below 20-year-old student teachers had significantly higher than above 21-year-old student teachers in teacher immediacy (total) and its subscales at the .01 and .05 levels.

Levels of Student Teachers' Academic Engagement

The mean and standard deviation of student teachers' academic engagement was 42.23 and 8.90. Based on descriptive statistics of academic engagement, student teachers in this study were identified into three groups; 12.8% of student teachers with scores above one standard deviation from the sample mean were considered as high group; 72.6% of student teachers with scores between (+1) and (-1) standard deviation from the sample mean were grouped into moderate group; and the remaining student teachers of 14.6% who scored below one standard deviation from the sample mean were identified as low group (see Figure 2).

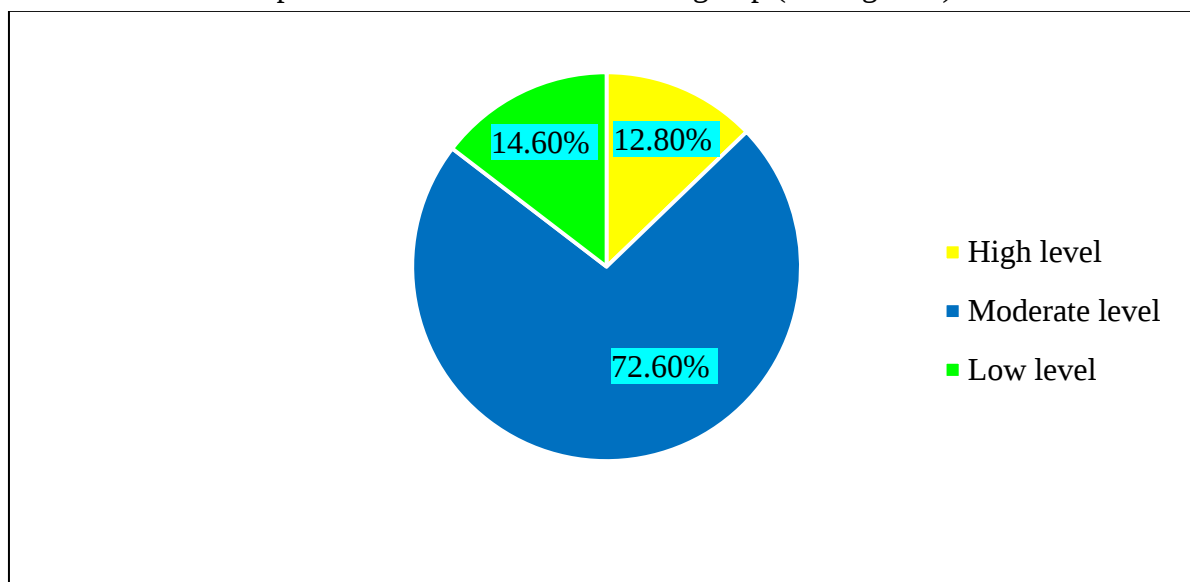


Figure 2 Three Different Groups of Student Teachers' Academic Engagement

Comparison of Student Teachers' Academic Engagement by Gender

To make more detailed investigation on the gender difference of student teachers' academic engagement, independent samples *t*-test was conducted (see Table 7).

Table 7 Means, Standard Deviations, and Result of Independent Samples *t*-test of Student Teachers' Academic Engagement by Gender

Variable	Gender	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Vigor	Male	196	14.32	3.34	3.115**	410	.002
	Female	216	13.24	3.70			
Dedication	Male	196	16.22	2.90	1.453	410	.147
	Female	216	15.80	3.01			
Absorption	Male	196	13.08	3.65	3.187**	410	.002
	Female	216	11.92	3.73			
Academic Engagement (Total)	Male	196	43.62	8.66	3.068**	410	.002
	Female	216	40.96	8.93			

** $p < .01$.

The result of independent samples *t*-test stated that there was significant gender difference for student teachers' academic engagement, ($t(410) = 3.068$, $p = .002$) in total academic engagement. There were significant gender differences in student teachers' vigor ($t(410) = 3.115$, $p = .002$) and absorption ($t(410) = 3.187$, $p = .002$). To be exact, inspection of the two

groups means indicated that the mean score of total academic engagement for male student teachers ($M = 43.62$) was significantly higher than that of female student teachers ($M = 40.96$). Similarly, the mean score of vigor for male student teachers ($M = 14.32$) was significantly higher than that of female student teachers ($M = 13.24$). In addition, the mean score of absorption for male student teachers ($M = 13.08$) was significantly higher than that of female student teachers ($M = 11.92$).

Comparison of Student Teachers' Academic Engagement by Education Level

To obtain more detailed information on the difference of student teachers' academic engagement by student teachers' education level, one-way Analysis of Variance (ANOVA) was conducted. ANOVA results indicated that there were significant differences of vigor, $F(4, 407) = 10.503$, $p < .001$, dedication, $F(4, 407) = 10.735$, $p < .001$, absorption, $F(4, 407) = 5.690$, $p < .001$ and total academic engagement, $F(4, 407) = 11.321$, $p < .001$, with regard to student teachers' education level (see Table 9).

Table 9 Means, Standard Deviations, and ANOVA Result of Student Teachers' Academic Engagement by Education Level

Variables	Education Level	N	M	SD	F	p
Vigor	First year	80	15.36	3.36	10.503***	.000
	Second year	80	14.54	2.86		
	Third year	80	12.24	3.93		
	Fourth year	82	13.70	3.40		
	Fifth year	90	13.01	3.44		
Dedication	First year	80	17.18	2.54	10.735***	.000
	Second year	80	16.61	2.47		
	Third year	80	14.45	3.32		
	Fourth year	82	16.13	2.72		
	Fifth year	90	15.68	2.99		
Absorption	First year	80	14.04	3.90	5.690***	.000
	Second year	80	12.68	3.31		
	Third year	80	11.48	3.71		
	Fourth year	82	12.24	3.61		
	Fifth year	90	12.00	3.69		
Academic Engagement (Total)	First year	80	46.58	8.27	11.321***	.000
	Second year	80	43.83	7.25		
	Third year	80	38.16	9.75		
	Fourth year	82	42.07	8.26		
	Fifth year	90	40.69	8.64		

*** $p < .01$.

Table 10 Results of Tukey HSD Multiple Comparison for Student Teachers' Academic Engagement by Education Level

Categories	(I) Education Level	(J) Education Level	Mean Difference(I-J)	<i>p</i>
Vigor	First Year	Third Year	3.125***	.000
		Fourth Year	1.667*	.017
		Fifth Year	2.351***	.000
	Second Year	Third Year	2.300***	.000
		Fifth Year	1.526*	.031
Dedication	First Year	Third Year	2.725***	.000
		Fifth Year	1.497**	.006
	Second Year	Third Year	2.163***	.000
	Fourth Year		1.684**	.002
	Fifth Year		1.228*	.040
Absorption	First Year	Third Year	2.563***	.000
		Fourth Year	1.794*	.016
		Fifth Year	2.037**	.003
Academic Engagement (Total)	First Year	Third Year	8.413***	.000
		Fourth Year	4.502**	.007
		Fifth Year	5.886***	.000
	Second Year	Third Year	5.663***	.000
	Fourth Year		3.911*	.029

* $p < .05$, ** $p < .01$, *** $p < .001$.

To obtain more detailed information for student teachers' academic engagement by education level, post hoc test was carried out by Tukey HSD multiple comparison procedure for first year, second year, third year, fourth year and fifth year (see Table 10).

Tukey HSD test found that first year student teachers had significantly higher than third year, fourth year and fifth year student teachers in vigor at the .05 and .001 levels, whereas second year student teachers had significantly higher than third year and fifth year student teachers in vigor at the .05 and .001 levels. In dedication, first year student teachers had significantly higher than third year and fifth year student teachers at the .05 and .01 levels and second year, fourth year and fifth year student teachers had significantly higher than third year at the .05, .01 and .001 levels. In absorption, first year student teachers had significantly higher than third year, fourth year and fifth year at the .05, .01 and .001 levels. In academic engagement (total), first year student teachers had significantly higher in than third year, fourth year and fifth year student teachers at the .01 and .001 levels, while second year and fourth year student teachers had higher than in academic engagement (total) than third year student teachers at the .05 and .001 levels.

Comparison of Academic Engagement by Age

After examining the model fit of the obtained data to Analysis of Variance (ANOVA), to obtain more detailed information on the difference of academic engagement by age, one-way Analysis of Variance (ANOVA) was conducted (see Table 11).

Table 11 Means, Standard Deviations, and ANOVA Results for Academic Engagement by Age

Variables	Age (Years)	N	M	SD	F	p
Vigor	Below 20	146	14.84	3.09	11.112***	.000
	20-21	130	13.04	3.88		
	Above 21	136	13.26	3.49		
Dedication	Below 20	146	16.78	2.51	8.295***	.000
	20-21	130	15.46	3.24		
	Above 21	136	15.68	2.97		
Absorption	Below 20	146	13.15	3.65	3.818*	.023
	20-21	130	12.17	3.81		
	Above 21	136	12.04	3.68		
Academic Engagement (Total)	Below 20	146	44.77	7.79	9.671***	.000
	20-21	130	40.67	9.78		
	Above 21	136	40.99	8.56		

* $p < .05$, *** $p < .001$.

ANOVA results indicated that there were significant differences of vigor, $F(2, 409) = 11.112$, $p < .001$, dedication, $F(2, 409) = 8.295$, $p < .001$, absorption, $F(2, 409) = 3.818$, $p = .023$ and academic engagement (total), $F(2, 409) = 9.671$, $p < .001$, with regard to student teachers' age (see Table 11).

To obtain more detailed information for age, post hoc test was carried out by Tukey HSD multiple comparison procedure for below 20, between 20 and 21 and above 21 (see Table 12).

Tukey HSD test found that below 20-year-old student teachers had significantly higher than 20-21 and above 21 student teachers in vigor, dedication and academic engagement (total) at the .01 and .001 levels. The findings indicated that below 20-year-old student teachers had significantly higher than above 21 student teachers in absorption at the .05 level.

Table 12 Results of Tukey HSD Multiple Comparison for Academic Engagement by Age

Categories	(I) Age (Years)	(J) Age (Years)	Mean Difference(I-J)	p
Vigor	Below 20	20-21	1.797***	.000
		Above 21	1.571**	.001
Dedication	Below 20	20-21	1.319**	.001
		Above 21	1.097**	.005
Absorption	Below 20	Above 21	1.114*	.032
Academic Engagement (Total)	Below 20	20-21	4.098***	.000
		Above 21	3.782**	.001

* $p < .05$, ** $p < .01$, *** $p < .001$.

Relationship Between Teacher Immediacy and Student Teachers' Academic Engagement

Pearson product moment correlations were calculated to examine the relationships between the variables. The correlations between teacher immediacy and student teachers' academic engagement are presented in Table 13. The results indicated that teacher immediacy

was positively correlated with student teachers' academic engagement ($r = .348$, *** $p < .001$). It could be said that the higher the teacher immediacy, the higher the student teachers' academic engagement (see Table 13).

Table 13 Relationship Between Teacher Immediacy and Student Teachers' Academic Engagement

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Instructional Immediacy	1	.687***	.643***	.888***	.351***	.299***	.224***	.334***
(2) Relational Immediacy		1	.671***	.873***	.341***	.240***	.244***	.319***
(3) Personal Immediacy			1	.847***	.275***	.222***	.175***	.258***
(4) Teacher Immediacy (Total)				1	.369***	.290***	.247***	.348***
(5) Vigor					1	.727***	.586***	.889***
(6) Dedication						1	.573***	.865***
(7) Absorption							1	.846***
(8) Academic Engagement (Total)								1

*** $p < .001$.

The Effect of Teacher Immediacy on Student Teachers' Academic Engagement

To identify the model for predicting student teachers' academic engagement, simple regression was used.

Table 14 Simple Regression Analysis for Predicting Student Teachers' Academic Engagement from Teacher Immediacy

Variables	<i>B</i>	β	<i>t</i>	<i>R</i>	R^2	Adjusted R^2	<i>F</i>
Academic Engagement (Constant)	16.569		4.386***	.321	.103	.101	46.973***
Teacher Immediacy	.421	.321	6.854***				

*** $p < .001$, *B* = Unstandardized Coefficient, β = Standardized Coefficient

The results revealed that student teachers' academic engagement was explained by teacher immediacy. Regression analysis revealed that the model significantly explained student teachers' academic engagement, $F = 46.973$, $p < .001$ and *R* for the model was .321 and explained for 10.1% of the variance in academic engagement. By applying regression analysis presented above, the resultant model for academic engagement can be defined as in the following equation.

$$\text{Academic Engagement} = 16.569 + .421 \text{ Teacher Immediacy}$$

The findings indicated that teacher immediacy was the significant predictor in predicting student teachers' academic engagement ($\beta = .321$, $p < .001$) (see Figure 3).

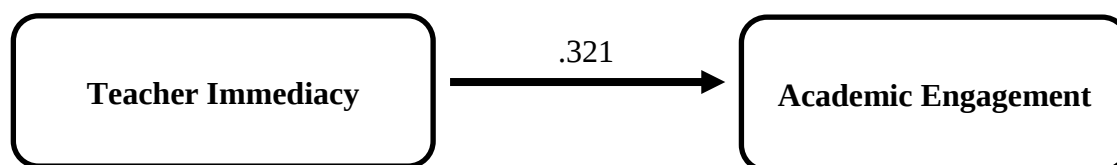


Figure 3 Predictive Power of Teacher Immediacy on Student Teachers' Academic Engagement

Discussion

This study sought to investigate the relationship between teacher immediacy and academic engagement of student teachers. Regarding the first objective, the results stated that student teachers could be classified into three groups regarding teacher immediacy: high group (15.8%), moderate group (74%) and low group (10.2%).

Regarding the second objective, the results indicated that there were no significant gender differences in teacher immediacy and its subscales. The findings were consistent with previous studies (e.g., Özdaş, 2022) that there was no significant gender difference in teacher immediacy. Regarding education levels, the results indicated that there were significant differences of teacher immediacy and its subscales. It can be assumed that first year student teachers have better perception on teacher immediacy than second year, third year, fourth year and fifth year student teachers. Moreover, the results indicated that younger student teachers reported higher level of teacher immediacy and its subscales than older ones. The first year is the transitional period from high schools to teacher education institutions. It can also be said that and younger student teachers may be more sensible to understand teachers' gestures and body language, and pay more attention on teachers' personality than older ones.

The findings of the third objective indicated that student teachers could be classified into three groups: high group (14.6%), moderate group (72.6%) and low group (12.8%).

According to the fourth objective, the results revealed that male student teachers were higher than female student teachers in vigor, absorption and academic engagement (total). However, there was no significant gender difference of dedication. This finding was consistent with the findings of gender differences in previous studies (Karki et al., 2020; Martin, 2012) that male students have good academic engagement than those of female students. In addition, the results indicated that there were significant differences of academic engagement (total) and its subscales by education level. The results were in line with previous studies of Karki et al. (2020) that significant differences in academic engagement were found between various courses/classrooms and year of study. Moreover, the results indicated that there were significant age differences in student teachers' academic engagement (total) and its subscales. Specifically, younger student teachers had higher academic engagement than older ones.

Moreover, the results of the fifth objective revealed that teacher immediacy was positively correlated with student teachers' academic engagement. Thus, the teacher immediacy increases, student teachers' academic engagement increases accordingly.

Finally, the results of the sixth objective revealed that teacher immediacy was the significant predictor in predicting student teachers' academic engagement. The finding was consistent with the findings of the previous studies conducted by van Uden et al. (2014) and Rocca (2001). This finding may be explained by the fact that getting students' attention is the most crucial factor in motivating students. This study suggests that the attraction theory proposed by Mehrabian (1971) should be used to develop teachers' immediacy.

Teacher educators should use immediacy behaviour to improve classroom environment and student-teacher relationship. Moreover, teacher education institutions should add to enhance immediacy behaviours as a part of pre-service teachers' training. In teacher education institutions, both pre-service and in-service teachers should be equipped with the knowledge of

appropriate immediacy behaviours (e.g., close proxemics, smiling, vocal varieties, etc.) to take advantage of these actions in their classrooms. The use of immediacy behaviours develops a relationship with student teachers so they become motivated and participate in classroom discussions for better learning.

Limitations and Future Research

Although the results supported the objectives of the study, there were some limitations. First, it is only examined teacher immediacy and academic engagement among student teachers from Yangon University of Education. Second, it was found that this study merely employed observer-report questionnaire to measure teacher immediacy; hence, the voices/perceptions of teachers regarding their immediacy are not heard.

Future studies should be carried out by selecting student teachers from other teacher education institutions in Myanmar so that the sample might be more representative. Further research should be conducted in different context such as basic education students and university students.

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