THE EFFECT OF PEDAGOGICAL BELIEFS ON INSTRUCTIONAL PRACTICES OF SCHOOL TEACHERS

Khin Aye Soe[1]

Abstract

This study aims to investigate the effect of pedagogical beliefs on instructional practices of school teachers. The participants were selected from a random sample of 938 school teachers from Yangon Region and Rakhine State. Descriptive survey research method and quantitative data analysis were used in this study. As a research instruments, the Pedagogical Beliefs Questionnaire (PBQ) and the Instructional Practices Questionnaire (IPQ) were applied in this study. In the analysis of the data, descriptive statistics, independent samples *t*-test, one-way ANOVA, Post Hoc test, Pearson's correlation analysis and Regression analysis were used in this study. The results of *t*-test revealed that there were no significant differences in traditional beliefs and subscales of instructional practices (traditional practice, interactive instructional practice and guided discovery practice) by gender but were significant differences in constructivist belief and flexible grouping practice subscale of instructional practices by gender. Then, the significant differences in subscales of pedagogical beliefs and instructional practices of school teachers were found among teacher position. Regression analysis revealed that traditional belief could highly positively predict traditional practice, and least positively predict guided discovery practice, flexible grouping practice and interactive instructional practice. Moreover, the constructivist belief could strongly positively predict guided discovery practice, flexible grouping practice and interactive instructional practice and could negatively predict traditional practice.

Keywords: Pedagogical Beliefs, Instructional Practices

Introduction

In this 21st century, the new challenge of education is to equip the students with 21st century skills such as innovation, creativity, critical and analytical thinking, communication, collaboration and problem solving skills which are essential in their real life out there after school (Rao, 2004). The ability of education system to adapt with the new trend in society had become one of crucial issues (Rao, 2004).

Thus, in the 2016-2017 academic year a new curriculum was launched in primary education in Myanmar. Then, secondary and high school curricula were gradually developed. Through these alterations, some changes had also been made in basic education in 2016. Thus, teachers need to learn more sophisticated teaching method, instructional strategies, assessment and how to apply them in teaching and learning situation. To adapt with changes the teacher's effort is important in which new curriculum is implemented.

Moreover, teachers' beliefs play vital role in the application of new instructional methods and techniques in classrooms and bringing change in schools. The pre-existing beliefs of teachers hinder the true implementation of curriculum in which they are not in congruence with the basic philosophy of curriculum (Cronin- Jones, 1991). Fullen (2007) also said that there are three elements at stake in curriculum innovation: the possible use of new instructional material, the possible use of new instructional approaches, and possible changes in the beliefs of teachers.Therefore, teachers need to bring necessary conceptual changes in their approaches, rethink their practices and beliefs. Pedagogical beliefs of teachers are influential factors and their

[1] Department of Educational Psychology, Thingangyun Education Degree College.

impact on instructional practices. Pajares (1992) emphasized the importance of understanding teacher beliefs.

Teachers are the most important elements in educational reforms and at the same time the biggest hurdles in the way of implementation of reforms in education (Bryan, 2012). Teachers' pedagogical beliefs play vital role in the application of new instructional methods and techniques in classrooms and bringing change in schools. Bryan (2012) was of the view that there would be issues in the implementation of the reform when beliefs of teachers are not in line with the philosophical foundations of the reform. Therefore, this study investigates the effect of pedagogical beliefs on instructional practices of school teachers in Myanmar.

Purpose of the Study

The main purpose of the study is to investigate the effect of pedagogical beliefs on instructional practices of school teachers.

Objectives of the Study

- To study pedagogical beliefs and instructional practices of school teachers with respect to gender and teacher position
- To investigate the relationship between pedagogical beliefs and instructional practices of school teachers
- To investigate whether pedagogical beliefs act as the predictor of instructional practices of school teachers

Definitions of Key Terms

Pedagogical beliefs. Pedagogical beliefs refer to the conceptions about teaching and learning that we hold to be true (Chan & Elliot, 2004).

- **Traditional belief**. A teacher who adheres to traditional beliefs views teaching as the transfer of knowledge from the instructor to the students and learning as the absorption of this information by the learners (Smith, 2022).
- **Constructivist belief**. A teacher who accepts constructivist belief views teaching as the facilitation of learners' exploration and learning as the process of constructing knowledge through personal experiences and interactions (Dewey, 2018).

  Instructional practices. Instructional practices refer to the methods, strategies, and techniques that teachers use to facilitate learning and effectively deliver curriculum content. These practices are designed to engage students, accommodate diverse learning needs, and promote a deeper understanding of the subject matter (Gagnon & Collay, 2001).
- **Traditional practice**. It is the kind of teacher-centered instructional practice which is emphasized delivering lectures, giving notes; transmitting knowledge, giving only known knowledge instead of encouraging construction of knowledge from the practical experiences of learners (Smith, 2023).
- **Interactive instructional practice**. It is the kind of instructional practice, which is emphasized actively engaging students in the learning process through discussions, collaboration, hands-on activities, and feedback (Smith, 2022).
- **Guided discovery practice**. It is the kind of instructional practice which is emphasized providing students with opportunities and choices to solve "real world" problems in freely

learning environment as well as stimulating students to decipher the meanings of the tasks for themselves (Johnson, 2020).

- **Flexible grouping practice**. It is the kind of instructional practice, which is more responsive to students at different levels and it emphasizes a cooperative rather than an individualized learning environment (Wahlstrom and Louis, 2008).

Related Literature Review

Teachers play a foundational role in education, serving as the primary facilitators of learning and development for students. Beyond imparting knowledge, they are crucial in shaping students' critical thinking, problem-solving abilities, and social skills. Teachers create and maintain the learning environment, adapt instructional methods to meet diverse student needs, and provide the guidance and support necessary for students to reach their full potential. They also serve as role models, influencing students' attitudes toward learning, motivation, and self-esteem. By fostering a positive, inclusive, and challenging educational experience, teachers contribute to the holistic development of students, preparing them not only for academic success but also for life beyond the classroom. Therefore, in order to provide such good education for students, teachers need to have good attitudes, mindsets and beliefs about education.

It was generally acknowledged that teachers possess theoretical beliefs about teaching and learning and those beliefs and theories tend to shape the nature of their instructional practices (Davis & Wilson, 1999). According to Nespor (1987) teachers were likely to teach in different ways because teachers' beliefs are more powerful than their knowledge in influencing the way in which they teach. Haney and associates (1996) determined that teachers' beliefs were significant indicators of the behaviors that will be present in the classroom.

Although the reality might be complex and multifaceted, teachers with teacher centered and content-oriented perspectives tend to adopt didactic teaching practices (Chai & Khine, 2008). In contrast, teachers with student-centered and learning-oriented perspectives tend to adopt constructivist teaching practices (Chai & Khine, 2008). Despite more recently, teacher-directed instruction has been re-emphasized (Kirschner, Sweller, & Clark, 2006), constructivist teaching and learning approaches has been advocated in western countries, such as the United States. The advocacy encourages student learning by providing students with opportunities and choices to solve "real world" problems in a freely dialogic environments as well as stimulating students to decipher the meanings of the tasks for themselves (Newmann, 1996; Wahlstrom & Louis, 2008).

The traditional practice emphasizes on delivering lectures, giving notes; transmitting knowledge, giving only known knowledge to the learners (Kirschner, Sweller, & Clark, 2006). The interactive instructional practice focuses on discussion and sharing provide learners with opportunities to react to the ideas, experience, insights, and knowledge of the teacher or of peer learners and to generate alternative ways of thinking and feeling (Chai & Khine, 2008). Wahlstrom and Louis (2008) have identified two main areas of convergence: (1) flexible grouping, as articulated by Gamoran (1987) and Cohen (1994), which highlights ability grouping and opportunities for cooperative learning of students; and (2) guided discovery practice, which emphasizes the teachers' role in directing students' attention toward learning goals, providing students with plenty of choices as well as motivating them to think (Reosenhine, 1995, Wahlstrom & Louis, 2008). Guided discovery practice focuses on problem-based and learner-

centered instruction in the U.S. context. Flexible grouping practice emphasizes the organization of the classroom to differentiate instruction according to purpose, and implies the use of different variables to form groups (Wahlstrom & Louis, 2008).

Although efforts toward educational reforms, teachers need to transform their classrooms from traditional, teacher-centered environments into more constructivist environments that help facilitate autonomous student learning (Chai & Khine, 2008). Teachers need to acquire a new set of beliefs and practices to facilitate transformation toward constructivist teaching and learning (Richardson & Placier, 2001). Therefore, it is important to examine how the pedagogical beliefs of school teachers affect their instructional practices.

Method

The descriptive survey research method and quantitative data analysis were applied in this study.

Participants of the Study

The participants of the study were selected by using the random sampling method. The sample was composed of 938 school teachers (52 males and 886 females) from Yangon Region and Rakhine State in the study.

Instruments

In order to study pedagogical beliefs, the 18 items of the Pedagogical Beliefs Questionnaire (PBQ) were developed and adapted by the researcher from the questionnaire of Teaching and Learning Conceptions Questionnaire developed by (Chan & Elliot, 2004) and Instructional Beliefs Questionnaire developed by Khan (2018). The 22 items of the Instructional Practices questionnaire (IPQ) were developed and adapted by the researcher from the instructional practices questionnaires of developed by Khan (2018), Berger and Kaiser (2008) and Wahlstrom and Louis (2008) to find out instructional practices of school teachers. The items were rated on five-point Likert Scale (1=strongly disagree to 5=strongly agree). The approximate time duration to accomplish all the items was about 25 minutes.

Data Collection Procedure

The expert review was conducted for face validity and content validity from nine well-experienced experts in the field of Educational Psychology. Based on the advice and the suggestions of the experts, some items were revised and omitted to avoid overlapping and uncertainty of items. The instrumentation procedure was done from August to September in 2023. To investigate the effect of pedagogical beliefs on instructional practices of school teachers, quantitative data analysis was performed.

Data Analysis and Research Findings

Teachers' Pedagogical Beliefs and Instructional Practices from all Selected Schools

To investigate the teachers' pedagogical beliefs, descriptive and inferential statistics were carried out. Table 1 shows descriptive statistics of pedagogical beliefs of school teachers.

Table 1 Descriptive Statistics of Pedagogical Beliefs of School Teachers

Pedagogical Beliefs	N	Mini-mum	Maxi-mum	Mean	Mean%	Std. Deviation
Traditional Belief	938	11	40	25.10	62.75%	4.315
Constructivist Belief	938	15	35	29.94	85.54%	3.144

According to table 1, the mean percentage of traditional belief and constructivist belief was 62.75% and 85.54% respectively. The results stated that the teachers who prefer constructivist belief were greater than the teachers who prefer traditional belief in teaching and learning.

Teachers' Instructional Practices from all Selected Schools

To investigate the teachers' instructional practices, descriptive and inferential statistics were carried out. Table 2 shows descriptive statistics of instructional practices of school teachers.

Table 2 Descriptive Statistics of Instructional Practices of School Teachers

Instructional Practices	N	Mini-mum	Maxi-mum	Mean	Mean%	Std. Deviation
Traditional Practice	938	9	33	20.32	58.06%	3.644
Flexible Grouping Practice	938	15	40	30.84	77.1%	3.117
Interactive Instructional Practice	938	18	35	28.98	82.8%	2.645
Guided Discovery Practice	938	15	35	28.89	82.54%	2.555

According to table 2, the mean percentage of guided discovery practice scale (82.54%) was the highest and the value of the traditional practice scale was the lowest. The results stated that most of the teachers were more likely prefer using guided discovery practice, interactive instructional practice and flexible grouping practice than traditional practice in classroom.

Comparison of the Teachers' Pedagogical Beliefs by Gender

The independent samples *t*-test was applied to examine whether there were significant differences in the teachers' pedagogical beliefs by gender or not. The *t*-test results for each subscale of pedagogical beliefs of school teachers were shown in Table 3.

Table 3 Results of Independent Samples *t*-test of Pedagogical Beliefs for Each Subscale by Gender

	Subscales	Gender	N	Mean	*t*	*df*	Mean Difference	*p*
Pedagogical Beliefs	Traditional Belief	Male	52	25.19	.160	936	0.099	.873
		Female	886	25.09				
	Constructivist Belief	Male	52	30.17	.559*****	936	0.251	.036
		Female	886	29.92				

*****$p < 0.05$

According to the results of table 3, there was no significant difference in traditional beliefs by gender but was significant difference in constructivist beliefs by gender at 0.05 level. Thus, male teachers were higher than female teachers in constructivist belief. The finding was consistent with the result of Chan, 2010.

Comparison of the Teachers' Instructional Practices by Gender

To find out whether there were significant differences in the teachers' instructional practices according to gender or not, independent samples *t*-test was conducted. Table 4 shows the independent samples *t*-test results for each subscale of instructional practices of school teachers.

Table 4 Results of Independent Samples *t*-test for Each Subscale of Instructional Practices by Gender

	Subscales	**Gender**	**N**	**Mean**	***t***	***df***	**Mean Difference**	***p***
Instructional Practices	Traditional practice	Male	52	21.12	1.62	936	0.842	0.105
		Female	886	20.27				
	Guided Discovery Practice	Male	52	28.73	-0.46	936	-0.168	0.646
		Female	886	28.90				
	Flexible Grouping Practice	Male	52	30.02	-1.96*****	936	-0.870	0.030
		Female	886	30.89				
	Interactive Instructional Practice	Male	52	28.60	-1.07	936	-0.407	0.281
		Female	886	29.00				

*****$p < 0.05$

According to the results of table 4, there was significant difference in flexible grouping practice subscale of instructional practices by gender at 0.05 level but were no significant differences in other subscales (traditional practice, interactive instructional practice and guided discovery practice) by gender. Thus, female teachers were higher than male teachers in flexible grouping practice. This finding was consistent with the result of Chan, 2010.

Comparison of the Teachers' Pedagogical Beliefs by Teacher Position

To find out the differences in the pedagogical beliefs of teachers according to teacher position, the descriptive statistics and one-way ANOVA was conducted. The descriptive statistics and ANOVA results are shown in table 5.

Table 5 Descriptive Statistics and ANOVA Results of Pedagogical Beliefs among Teacher Position

Pedagogical Beliefs	**Teacher Position**	**N**	***Mean***	***SD***	***F***	***p***
Traditional Belief	PAT	246	25.22	4.257	.436	0.646
	JAT	371	25.14	4.389		
	SAT	321	24.92	4.333		
Constructivist Belief	PAT	246	29.79	3.133	2.616*****	0.044
	JAT	371	30.22	3.046		
	SAT	321	29.72	3.246		

Note. JAT= Junior Assistant Teacher, PAT= Primary Assistant Teacher, SAT= Senior Assistant Teacher, *****$p < 0.05$

According to table 5, there was no significant differences traditional belief among teacher position. But there existed significant difference in constructivist belief among teacher position at 0.05 level. To obtain more detailed information in teacher position performed better than others position, the post hoc analysis was applied. The post hoc test was executed by Tukey HSD method and the results were presented as table 6.

Table 6 The Results of Tukey HSD Multiple Comparison for Constructivist Belief by Teacher Position

	(I) Teacher Position	**(J) Teacher Position**	**Mean Difference (I-J)**	***p***
Constructivist Belief	JAT	SAT	0.507*****	0.046
		PAT	0.502*****	0.038

Note. JAT= Junior Assistant Teacher, PAT= Primary Assistant Teacher, SAT= Senior Assistant Teacher, *****$p < 0.05$

Based on the results of table 6, junior assistant teachers were significantly different from primary assistant teachers and senior assistant teachers at 0.05 level. Thus, junior assistant teacher preferred more constructivist belief than that of primary assistant teachers and senior assistant teachers.

Comparison of the Teachers' Instructional Practices by Teacher Position

Then, to find out the significant differences in each subscale of instructional practices according to teacher position, the descriptive statistics and one-way ANOVA was conducted. The descriptive statistics and ANOVA results are shown in table 7.

Table 7 Descriptive Statistics and ANOVA Results of Instructional Practices by Teacher Position

Instructional Practices	**Teacher Position**	**N**	***Mean***	***SD***	***F***	***p***
Traditional Practice	PAT	246	20.74	3.400	3.235*****	0.040
	JAT	371	20.11	3.761		
	SAT	321	20.09	3.738		
Guided Discovery Practice	PAT	246	28.56	2.470	3.858*****	0.021
	JAT	371	29.03	2.532		
	SAT	321	29.11	2.664		
Flexible Grouping Practice	PAT	246	30.93	3.405	4.175*****	0.016
	JAT	371	31.12	2.086		
	SAT	321	30.45	3.112		
Interactive Instructional Practice	PAT	246	28.67	2.532	3.458*****	0.031
	JAT	371	29.07	2.598		
	SAT	321	29.26	2.824		

Note. JAT= Junior Assistant Teacher, PAT= Primary Assistant Teacher, SAT= Senior Assistant Teacher, *****$p < 0.05$

According to table 7, there existed significant differences in traditional practice, guided discovery practice, flexible grouping practice and interactive instructional practice at 0.05 level respectively by teacher position. To obtain more detailed information in teacher position performed better than others teacher position, the post hoc analysis was applied. The post hoc test was executed by Tukey HSD method and the results were shown in table 8.

Table 8 The Results of Tukey HSD Multiple Comparison for Instructional Practices Among Teacher Position

Instructional Practices	(I) Teacher Position	(J) Teacher Position	Mean Difference (I-J)	*p*
Traditional Practice	PAT	JAT	0.631*	0.060
		SAT	0.645*	0.092
Guided Discovery Practice	SAT	PAT	0.545*	0.031
		JAT	0.469*	0.042
Flexible Grouping Practice	JAT	SAT	0.673*	0.013
Interactive Instructional Practice	SAT	PAT	0.593*	0.022

Note. JAT= Junior Assistant Teacher, PAT= Primary Assistant Teacher, SAT= Senior Assistant Teacher, *$p < 0.05$

According to table 8, the primary assistant teachers preferred more traditional practice than the junior assistant teachers and the senior assistant teachers. The senior assistant teachers preferred more guided discovery practice than that of the primary assistant teachers and the junior assistant teachers. The junior assistant teachers preferred more flexible grouping practice than that of the senior assistant teachers. The senior assistant teachers preferred more interactive instructional practice than that of the primary assistant teachers.

Relationship between Pedagogical Beliefs and Instructional Practices of School Teachers

To find out whether there is the relationship between pedagogical beliefs and instructional practices of school teachers the correlational analysis was conducted. The results were shown in the following table 9.

Table 9 The Inter-Item Correlation Matrix between Pedagogical Beliefs and Instructional Practices of School Teachers

	TB	CB	TP	FGP	IIP	GDP
Traditional Belief	1					
Constructivist Belief	- .003	1				
Traditional Practice	.617**	- .136*	1			
Flexible Grouping Practice	.175*	.460**	.172*	1		
Interactive Instructional Practice	.182*	.563**	.054	.587**	1	
Guided Discovery Practice	.174*	.552**	.038	.601**	.790**	1

*****$p < 0.05$, ****** $p < 0.01$

Note. TB= Traditional Belief, CB= Constructivist Belief, TP= Traditional Practice, FGP= Flexible Grouping Practice, IIP= Interactive Instructional Practice, GDP= Guided Discovery Practice

According to table 9, the traditional belief was highly positively correlated with traditional practice (r=0.617, $p < 0.01$) and had lowest correlations with flexible grouping practice (r=0.175, $p < 0.5$), interactive instructional practice (r=0.182, $p < 0.05$) and guided discovery practice (r= 0.174, $p < 0.05$). The constructivist belief was highly positively correlated with flexible grouping practice (r=460, $p < 0.01$), interactive instructional practice (r=563, $p <$

0.01) and guided discovery practice (r=0.552, $p < 0.01$) and negatively correlated with traditional practice (r= - 0.136, $p < 0.5$). From the correlational analysis, it could be generally estimated that pedagogical beliefs of school teachers can affect their instructional practices. And multiple regression analysis was performed. The results were shown in table 10, 11, 12 and 13.

Table 10 Multiple Regression Analysis for Predicting Traditional Practice in terms of Pedagogical beliefs

Variable	B	β	*t*	*p*	R	R^2	Adjusted R^2	*F*
Traditional Practice	11.416		8.700	.000	.652	.425	.421	97.866
Predictor Variables								
Traditional Belief	.461	.546	18.869	.000				
Constructivist Belief	-.132	-.113	-3.813	.000				

***$p < .001$

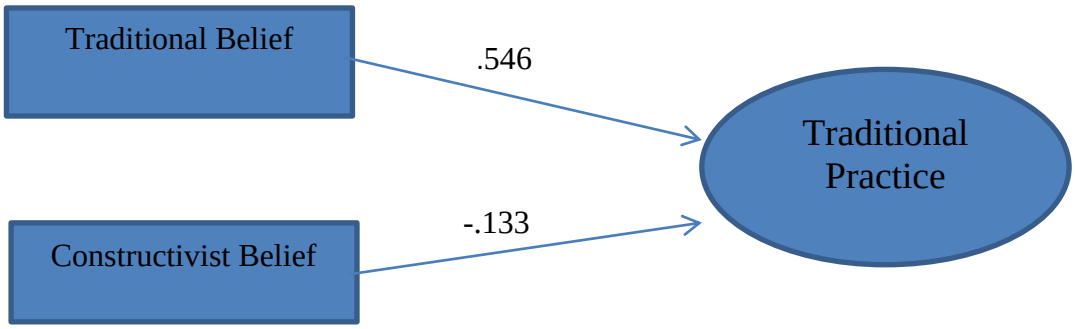

Figure 1 Model of Pedagogical Beliefs on Traditional Practice

The adjusted R Square value is .421. This indicates that approximately 42.1% of the variance in traditional practice can be predicted from traditional belief, constructivist belief. The model equation is to predict the traditional practice from teacher's traditional belief, constructivist belief is;

Traditional Practice =11.416+.546TB - .133CB

Note. TB=Traditional Belief, CB= Constructivist Belief

From the regression analysis, traditional belief could positively predict traditional practice (β=.546), and constructivist belief could negatively predict traditional practice (β= -.133).

Table 11Multiple Regression Analysis for Predicting Guided Discovery Practice in terms of Pedagogical beliefs

Variable	B	β	*t*	*p*	R	R^2	Adjusted R^2	*F*
Guided Discovery Practice	8.831		9.208	.000	.613	.376	.471	79.64
Predictor Variables								
Traditional Belief	.086	.045	4.802	.000				
Constructivist Belief	.452	.533	13.978	.000				

***$p < .001$

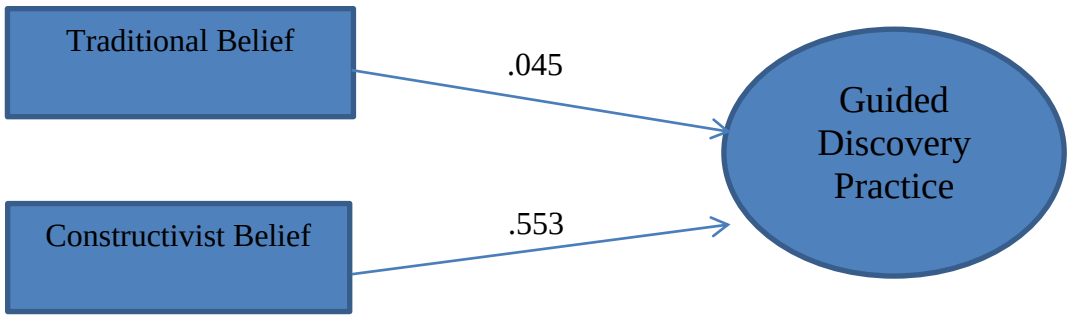

Figure 2 Model of Pedagogical Beliefs on Guided Discovery Practice

The adjusted R Square value is .471. This indicates that approximately 47.1 % of the variance in guided discovery practice can be predicted from traditional belief and constructivist belief. The model equation is to predict the guided discovery practice from teacher's traditional belief, constructivist belief is;

Guided Discovery Practice =8.831+.045TB+.553CB

Note. TB=Traditional Belief, CB= Constructivist Belief

From the regression analysis, traditional belief, constructivist belief could positively predict guided discovery practice (β= .045), (β=.533).

Table 12 Multiple Regression Analysis for Predicting Flexible Grouping Practice in terms of Pedagogical beliefs

Variable	B	β	*t*	*p*	R	R^2	Adjusted R^2	*F*
Flexible Grouping Practice	7.676		6.205	.000	.549	.302	.497	57.21
Predictor Variables								
Traditional Belief	.109	.089	9.075	.000				
Constructivist Belief	.421	.423	6.790	.000				

***$p < .001$

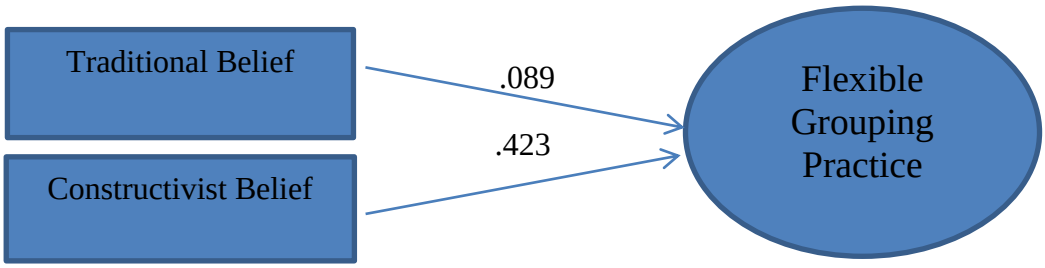

Figure 3 Model of Pedagogical Beliefs on Flexible Grouping Practice

The adjusted R Square value is .497. This indicates that approximately 49.7 % of the variance in flexible grouping practice can be predicted from traditional belief, constructivist belief. The model equation is to predict the flexible grouping practice from teacher's traditional belief, constructivist belief is;

Flexible Grouping Practice =7.676+.089TB+.423CB

Note. TB=Traditional Belief, CB= Constructivist Belief

From the regression analysis, traditional belief, constructivist belief could positively predict flexible grouping practice (β= .089), (β=.423).

Table 13 Multiple Regression Analysis for Predicting Interactive instructional Practice in terms of Pedagogical beliefs

Variable	**B**	**β**	***t***	***p***	**R**	**R^2**	**Adjusted R^2**	***F***
Interactive Instructional Practice	7.178		7.383	.000	.633	.401	.492	88.55
Predictor Variables								
Traditional Belief	.096	.083	4.559	.000				
Constructivist Belief	.438	.469	14.42	.000				

***$p < .001$

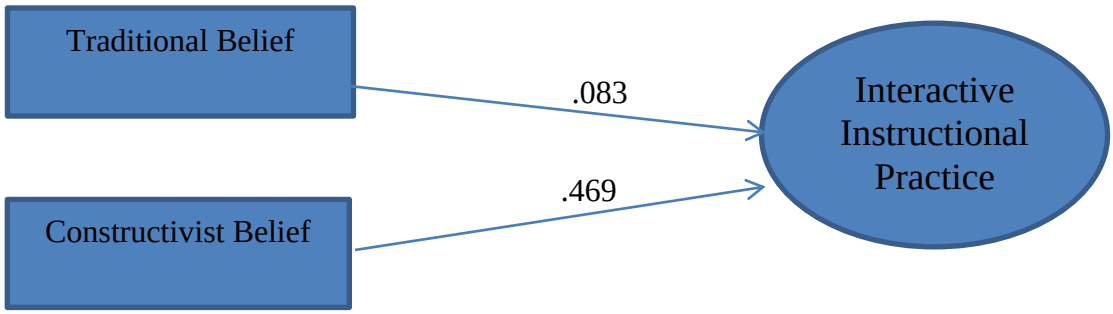

Figure 4 Model of Pedagogical Beliefs on Interactive Instructional Practice

The adjusted R Square value is .492. This indicates that approximately 49.2 % of the variance in interactive instructional practice can be predicted from traditional belief, constructivist belief. The model equation is to predict the interactive instructional practice from teacher's traditional belief, constructivist belief is;

Interactive Instructional Practice = 7.178+.083TB+.469CB

Note. TB=Traditional Belief, CB= Constructivist Belief

From the regression analysis, traditional belief, constructivist belief could positively predict interactive instructional practice (β=.083) and (β=.469).

Conclusion

The results of descriptive statistics of pedagogical beliefs of school teachers revealed that the mean percentage of traditional belief and constructivist belief was 62.75% and 85.54% respectively. So, it was found that most of the teachers more preferred in constructivist belief than those of traditional belief. In addition, the results of descriptive statistics of instructional practices of school teachers revealed that the mean percentage of guided discovery practice scale (82.54%) was the highest and the value of the traditional practice scale (59.08%) was the lowest. Therefore, it was found that most of the teachers more likely prefer using guided discovery practice, interactive instructional practice and flexible grouping practice than traditional practice in classroom.

In pedagogical beliefs, the results of independent samples *t*-test revealed that there was no significant difference in traditional beliefs by gender but was significant difference in constructivist beliefs by gender at 0.05 level. Thus, male teachers were higher than female teachers in constructivist belief. The finding is consistent with the results of Chan, 2010. Again the results of *t*-test revealed that there was significant difference in flexible grouping practice subscale of instructional practices by gender at 0.05 level but was no significant difference in other subscales (traditional practice, interactive instructional practice and guided discovery practice by gender. Thus, female teachers were higher than male teachers in flexible grouping practice. This finding was consistent with the results of Chan, 2010.

ANOVA results of pedagogical beliefs revealed that there was no significant differences traditional belief among teacher position. But there existed significant differences in constructivist belief among teacher position at 0.05 level. The junior assistant teachers preferred more constructivist belief than the primary assistant teachers and the senior assistant teachers.

Again ANOVA results of instructional practices revealed that there existed significant differences traditional practice, guided discovery practice, flexible grouping practice and interactive instructional practice at 0.05 level respectively by teacher position.

For traditional practice, the result of post hoc test revealed that the primary assistant teachers were significantly different from the junior assistant teachers and the senior assistant teachers at 0.05 level. For guided discovery practice, the result of post hoc test revealed that the senior assistant teachers were significantly different from the primary assistant teachers and the junior assistant teachers at 0.05 level. For flexible grouping practice, the result of post hoc test revealed that junior assistant teachers were significantly different from the senior assistant teachers at 0.05 level. For interactive instructional practice, the result of post hoc test revealed that the senior assistant teachers were significantly different from the junior assistant teachers at 0.05 level.

By applying Pearson correlation analysis, the results showed that the traditional belief was highly positively correlated with traditional practice ($r = 0.617$, $p < 0.01$) and had lowest correlations with flexible grouping practice ($r = 0.175$, $p < 0.5$), interactive instructional practice

(r = 0.182, $p < 0.05$) and guided discovery practice (r = 0.174, $p < 0.05$). The constructivist belief was highly positively correlated with flexible grouping practice (r = 460, $p < 0.01$), interactive instructional practice (r = 563, $p < 0.01$) and guided discovery practice (r = 0.552, $p < 0.01$) and negatively correlated with traditional practice (r = - 0.136, $p < 0.5$).

Finally, multiple regression analysis was conducted to investigate whether pedagogical beliefs act as the predictor of instructional practices of school teachers. From the results of the regression analysis, traditional belief could highly positively predict traditional practice (β =.546), and least positively predict guided discovery practice (β = .045), flexible grouping practice (β = .089) interactive instructional practice (β =.083). The constructivist belief could positively predict guided discovery practice (β =.533), flexible grouping practice (β =.423), interactive instructional practice and (β =.469), and could negatively predict traditional practice (β = -.133).

Discussion and Recommendations

Research findings can provide a general overview on the importance of pedagogical beliefs towards instructional practices. The finding of the study showed that most of teachers more preferred in constructivist beliefs than those of traditional belief. Moreover, it was found that most of the teachers were more likely to prefer using guided discovery practice, interactive instructional practice and flexible grouping practice than traditional practice in classroom.

As regards the influence of gender, the female teachers appeared to be more inclined to hold a constructivist conception regarding teaching and learning, and conversely, less likely to hold a traditional conception about teaching and learning compared to male teachers. This finding occurs with another study using the instrument of (Chan, 2010) which indicates that Turkish student teachers strongly preferred the constructivist conception in teaching and learning, and female student teachers' mean score on constructivist conception was significantly higher than that of their male counterparts (Aypay, 2010).

In comparing teachers' pedagogical beliefs by teacher position, the junior assistant teachers preferred more constructivist belief than the primary assistant teachers and the senior assistant teachers. In comparing teachers' instructional practices by teacher position, the primary assistant teachers preferred more traditional practice than the junior assistant teachers and the senior assistant teachers. The senior assistant teachers preferred more guided discovery practice than the primary assistant teachers and the junior assistant teachers. The junior assistant teachers preferred more flexible grouping practice than the senior assistant teachers. The senior assistant teachers preferred more interactive instructional practice than the primary assistant teachers. These findings were consistent with the results of (Chan and Elliott, 2004).

More importantly, the findings reveal that teachers' constructivist conceptions were significantly and positively correlated with standard contemporary practice, focused instruction, and flexible grouping practice. However, teachers' traditional conceptions were identified as a significantly negative predictor of standard contemporary practice, and did not have significant effects on focused instruction and flexible grouping practices. More follow up case studies will be needed to understand these relationships.

As regards the influence of gender, it was found that male teachers appeared to be more inclined to hold a constructivist belief regarding teaching and learning, and conversely, less

likely to hold a traditional belief about teaching and learning compared to female teachers. More importantly, the findings reveal that teachers' constructivist beliefs were identified as a highly positive predictor of guided discovery practice, interactive instructional practice, and flexible grouping practice and did not have significant effect on traditional practice. In addition, the teachers' traditional beliefs were identified as a highly positive predictor of traditional practice, and had little effect on guided discovery practice, flexible grouping practice and interactive instructional practice.

Therefore, by addressing teachers' pedagogical beliefs, educational institutions can foster a culture of continuous professional growth and create more effective and inclusive learning environments for students. Moreover, it is certainly important that the teachers should have constructivist beliefs in order to implement the effective teaching learning process in 21st century. These beliefs equip teachers with the necessary mindset and skills to create student-centered, adaptable, and inclusive learning environments. Moreover, they can foster critical thinking, inquiry, and a commitment to lifelong learning, ultimately enhancing the educational experiences and outcomes for students.

Acknowledgements

This endeavor would not have been possible without those who advocate and persuade for this study. First of all, we would like to extend our sincere thanks to Dr. Kay Thwe Hlaing, Rector of Yangon University of Education for encouragement, administrative supports, official permission, and providing facilities throughout the research. Words cannot express our gratitude to Pro-Rectors of Yangon University of Education: Dr. Khin Khin Oo, Dr.Nyo Nyo Lwin and Dr.May Myat Thu for their grateful consent and guidance. Then, we would like to express our deepest appreciation to Dr. Khin Hnin Nwe (Professor and Head of Department of Educational Psychology, Yangon University of Education) and Dr. Su Myat Aye (Lecturer, Department of Educational Psychology, Yangon University of Education) for their advice and timely suggestions. Furthermore, thanks should also go to the administrators for their permission to conduct this study. Lastly, we would be remiss in not mentioning school teachers from Schools in Yangon Region and Rakhine State for their active contribution and collaboration for data collection.

References

Berger, J., & Kaiser, L. (2008, August). Assessment of teacher instructional practices. Poster session presented at the annual meeting of the American Psychology Association, Boston, MA

Bryan, C. L., & Solmon, M. A. (2012). Student Motivation in Physical Education and Engagement in Physical Activity. *Journal of Sport Behavior*, 35, 267-285.

Chai, C. S., & Khine, M. S. (2008). Assessing the epistemologi-cal and pedagogical beliefs among pre-service teachers in Singapore. In M. S. Khine (Ed.), Knowing, knowledge and beliefs: Epistemological studies across diverse cultures (pp. 287–299). Springer

Chan, K.W. & Elliot, R.G. (2004). Relational analysis of personal epistemology and conceptions about teaching and learning. Teaching and Teacher Education, 20, 817-831. http://dx.doi.org/10.1016/j.tate.2004.09.002

Chan, K.W. (2010). The role of epistemological beliefs in Hong Kong preservice teachers' learning. Asia Pacific Education Researcher, 19, 7-24

Cohen, E. (1994). Restructuring the classroom: Conditions for productive small groups. Review of Educational Research, 64, 1-35. http://dx.doi.org/10.3102/00346543064001100

Cronin-Jones, L. L. (1991). Science Teacher Beliefs and Their Influence on Curriculum Implementation: Two Case Studies. Journal of Research in Science Teaching, 28, 235-250

Dewey, J. (2018). *Constructivist beliefs and practices in education*. Learning Press.

Fullan, M. (2007). The new meaning of educational change. New York: Teachers College Press

Gagnon, G. W., & Collay, M. (2001). Designing for Learning: Six Elements in Constructivist Classrooms. Corwin Press.

Gamoran, A. (1987). Organization, instruction, and the effects of ability grouping: Comment on Slavins best evidence synthesis. Review of Educational Research, 57, 341-345. http://dx.doi.org/ 10.3102/ 00346543057003341

Haney, J., Czerniak, C. M., & Lumpe, A. T. (1996). Teacher beliefs and intentions regarding the implementation of science education reform strands. *Journal of Research in Science Teaching*, 33(9), 971-993

Johnson, L. (2020). *Effective guided discovery in the classroom*: Strategies for teachers. Education Press.

Kirschner, P.A., Sweller, J., & Clark, R.E. (2006). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. Educational Psychologist, 41, 75-86. http://dx.doi.org/10.1207/s15326985ep4102

Nespor, J. (1987). The role of beliefs in the practice of teaching. *Journal of Curriculum Studies*, 19(4), 317-328.

Pajares, F. (1992). Teachers' beliefs and educational research: Cleaning up the messy construct. Review of Educational Research, 62(3), 307-332.

Rao, S.S. (2004) Electronic Book Technologies: An Overview of the Present Situation. Library Review, 53, 363-371. http://dx.doi.org/10.1108/00242530410552304

Richardson, V. & Placier, P. (2001). Teacher change. In V. Richardson (Ed.), Handbook of research on teaching (4th ed) (pp.905-947). Washington, DC: American Educational Research Association. PMid:11580735

Rosenhine, B. (1995). Advances in research on instruction. *The Journal of Educational Research*, 88, 262-268. http://dx.doi.org/10.1080/00220671.1995.9941309

Smith, J. (2022). *Interactive teaching strategies for student engagement*. Education Press.

Smith, J. (2022). *Traditional approaches to teaching and learning*. Education Press.

Smith, J. (2023). *Understanding Teacher-Centered Practices in Education*. Learning Publishers.

Wahlstrom, K.L. & Louis, K.S. (2008). How teachers experience principal leadership: The roles of professional community, trust, efficacy, and shared responsibility. Educational Administration Quarterly, 44, 458-495. http://dx.doi.org/10.1177/0013161X08321502