THE RELATIONSHIP OF INTRINSIC GOAL ORIENTATION FOR LEARNING GEOGRAPHY, SELF-EFFICACY FOR LEARNING AND PERFORMANCE IN GEOGRAPHY, AND METACOGNITIVE SELF-REGULATED GEOGRAPHY LEARNING WITH BHUTAN GEOGRAPHY ACHIEVEMENT OF GRADE 8 STUDENTS AT DRUK HIGHER SECONDARY SCHOOL IN THIMPHU, BHUTAN

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Abstract: The study aimed to determine whether there was a significant relationship between intrinsic goal orientation for learning geography, self-efficacy for learning and performance in geography, and metacognitive self-regulated geography learning with Bhutan geography achievement of Grade 8 students at Druk Higher Secondary School in Thimphu, Bhutan. The Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich et al., 1991) was adapted and used to collect the data on intrinsic goal orientation for learning geography, self-efficacy for learning and performance in geography, and metacognitive self-regulated geography learning from 49 Grade 8 students at Druk Higher Secondary School in Thimphu, Bhutan in Term 2 of the Academic Year 2020. A total of 49 students from Grade 8 were selected using the convenience sampling method for the research conducted. The Bhutan Geography achievement scores of the students were collected using the End of Term 2 Bhutan geography examination. A correlational analysis was used to determine the relationships of intrinsic goal orientation for learning geography, self-efficacy for learning and performance in geography, and metacognitive self-regulated geography learning and Bhutan geography achievement of the Grade 8 students. The relationship between intrinsic goal orientation and Bhutan geography achievement was weak but positively correlated. The relationship between self-efficacy for learning and performance in geography and Bhutan geography achievement; and the relationship between metacognitive self-regulated geography learning and Bhutan geography achievement was moderately strong. The findings further indicated that there was a significant, moderately strong, and positive

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correlation between the three independent variables and one dependent variable. Recommendations for students, teachers, curriculum developers, and future research are provided.

Keywords: Bhutan geography, Bhutan geography achievement, intrinsic goal orientation, self-efficacy, metacognitive self-regulation, Druk Higher Secondary School, Thimphu, Bhutan.

Introduction

The geographical study helps learners understand the changing earth, helps learners develop critical learning skills and creativity, and inspires interest in natural phenomena. The world would be a much different place if exploration and inquiry into why it is the way it is had not been made (Jacaranda, 2016, April 7). In learning geography, teachers act as facilitators in helping students become self-regulated learners (Markuszewska et al., 2018). Learners who portray abilities to learn new things, develop skills, and show capabilities to achieve challenging tasks, are intrinsically motivated and are more likely to become self-regulated learners (Abdullah, 2010). Self-regulated learners analyze and evaluate their own thought processes to achieve success in specific tasks (Usher & Pajares, 2008). This is further supported by self-efficacy in influencing a learner to make learning decisions and engage in complex learning processes (Sahin, 2014).

According to the Ministry of Education Bhutan (MOEB), quality of learning is one of the major challenges in the education system in Bhutan (MOEB, 2018). Some of the issues highlighted under geography and social science subjects were gaps between the intended curriculum and actual implementation in the field and incompetent teachers (Dukpa, 2016). Schools were recommended to upscale IT facilities for exploratory teaching and learning. The curriculum was changed from content-based to process-based to enable teachers to teach *how* to learn rather than *what* to learn (Dukpa, 2016). Despite encouragement and emphasis on the subject by the Ministry of Education Bhutan (MOEB), students' interest in the subject and parental encouragement did not coincide with the objectives of the Ministry of Education, Bhutan (Tenzin, 2002). The current researcher worked in Druk Higher Secondary School from 2012- 2017 and observed that the students performed below average in Bhutan geography classes. This was based on the lack of importance given to the subject, Bhutan geography, compared to the subjects like science and mathematics. It was observed that the learners used the rote learning method to achieve significant good grades in the examination. The students tend to evade challenges in assignments and tasks assigned to them if faced with difficulty. Which further demotivates their curiosity

(intrinsic motivation) and confidence (self-efficacy) and independently manages their own learning (metacognitive self-regulation).

Given the above situation, the researcher believes there is a strong relationship between the intrinsic goal orientation for learning geography, self-efficacy for learning and performance in geography, and metacognitive self-regulated geography learning with Bhutan geography achievement in Druk Higher Secondary School in Thimphu, Bhutan. The present study has been developed to determine if that is the case.

Research Objectives

The research objectives for this study were as follows.

1. To determine the level of intrinsic goal orientation for learning geography of Grade 8 students at Druk Higher Secondary School in Thimphu, Bhutan.
2. To determine the level of self-efficacy for learning and performance in the geography of Grade 8 students at Druk Higher Secondary School in Thimphu, Bhutan.
3. To determine the level of metacognitive self-regulated geography learning of Grade 8 students at Druk Higher Secondary School in Thimphu, Bhutan.
4. To determine the level of Bhutan geography achievement of Grade 8 students at Druk Higher Secondary School in Thimphu, Bhutan.
5. To determine whether there is a significant relationship between intrinsic goal orientation for learning geography, self-efficacy for learning and performance in geography, and metacognitive self-regulated geography learning with Bhutan geography achievement of Grade 8 students at Druk Higher Secondary School in Thimphu, Bhutan.

Conceptual Framework

The conceptual framework was developed based on the related studies' theoretical links and empirical evidence. The research was based on the following theories: Bandura's (1989) Social cognitive theory, intrinsic goal orientation, Bandura's (1991) self-efficacy theory, and self-regulated theory (Pintrich, 1991). The independent variables were intrinsic goal orientation for learning geography, self-efficacy for learning and performance in geography, and metacognitive self-regulated geography learning, and the dependent variable was Bhutan geography achievement. Using multiple correlation analysis, these variables were tested on 49 Grade 8 students of Druk Higher Secondary School located in Thimphu, Bhutan. Figure 1 shows the conceptual framework of this study.

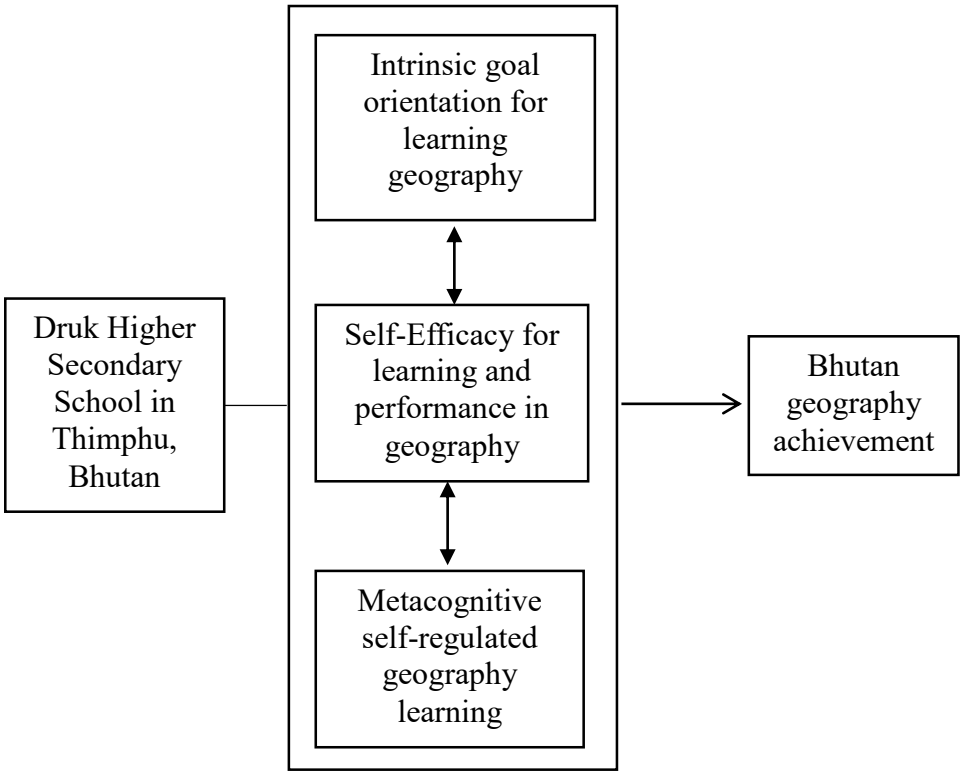

Figure 1. ***Conceptual Framework for the Study.***

Literature Review

Social Cognitive Theory

Bandura's social cognitive theory (SCT) was developed based on individual learning being affected by three factors, i.e., personal, behavioral, and environmental factors (Bandura, 1989; iSALT Team, 2014). SCT emphasizes how social context influences an individual's internal and external social reinforcements (LaMorte, 2019, September 9). It describes the motives and effects of learners' experience in engaging in a specific behavior in the future (LaMorte, 2019, September 9). SCT describes these causations of human behavior in the interaction among people, behavior, and environment demonstrated in a construct called triadic reciprocal determinism (Bandura, 1989).

Intrinsic Goal Orientation

Intrinsic goal orientation is a type of motivation that primarily develops from internal reasons, e.g., pride, enjoyment, positive outlook, and well-being achieved through a particular task (Wimmer et al., 2018). These learners engage in a particular activity for their own development stimulated through

curiosity, challenge, or mastery of content (Pintrich et al., 1991). Geography learners who are intrinsically goal orientated tend to use higher cognitive strategies through debate, outdoor learning environment, and group investigation to achieve greater accomplishments using suitable means and approaches to learning (Fuller, 2012; Tan et al., 2005; Wijayanto et al., 2017).

Self-Efficacy Theory

Self-efficacy determines how an individual believes in their capacity to think, motivate, and behave to attain success (Bandura, 1989). Self-efficacy is one of the major factors driving motivation to achieve and accomplish learning tasks (Husain, 2014). A learner's sources of self-efficacy are mastery experience, vicarious experience, verbal persuasion, and physiological state (Alqurashi, 2016). Geography learners with a strong sense of competence approach difficult tasks through GIS-based teaching, field studies, and learning by doing methods as challenges to masters' skills rather than as situations to avoid (Balci & Tuna, 2014; Markuszewska et al., 2018; Singh et al., 2016).

Self-Regulated Learning Theory

Self-regulated learning theory states that people's actions are not solely controlled by external factors but rather the interactions of an individual's personal, behavioral, and environmental factors (Bandura 1991; Care et al., 2019). It is an analytical tool that helps learners understand the cognitive, motivational, and emotional aspects of learning to achieve their goals (Panadero, 2017, April 18). Individuals' self-regulation develops through a process of observation, emulation, self-control, and self-regulation (Zimmerman, 2005). To become a self-regulated geography learner, an individual must analyze and evaluate their learning behaviors which are not merely based on memorization and reading (Bhutan Council for School Examination and Assessment, 2019; Fatih et al., 2019; Kuisma, 2018). Self-regulated geography learning can be enhanced in students through the approach of inquiry-based learning, 7 E-learning skills, and transversal competencies (Adesoji & Idika, 2015; Fatih et al., 2019; Kuisma, 2018; Care et al., 2019).

Motivated Strategies for Learning Questionnaire (MSLQ)

The Motivated Strategies for Learning Questionnaire (MSLQ) is a research instrument based on a self-report assessment of college students' motivational orientation and their uses of learning strategies. The MSLQ was created by Pintrich et al. (1991). The 81 Items of the MSLQ are divided into two sections, i.e., the learning strategies section (50 Items) and the motivation sections (31 Items). Although the MSLQ was originally developed for use with American

college students, the researcher decided it is also applicable for the students in this study.

Method

The study employed a quantitative correlational research design. The level of students' intrinsic goal orientation for learning geography, self-efficacy for learning and performance in geography, and metacognitive self-regulated geography learning were measured using the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich et at.,1991) with the minor adaptation to geography learning. The dependent variable, Bhutan geography achievement, was measured using the End of Term 2 Bhutan geography examination with Section A comprising 50 single response items and Section B comprising 15 varied response items) of Grade 8 students at Druk Higher Secondary School in Thimphu, Bhutan. The data collected from the first four objectives of the research were analyzed using descriptive statistics (means and standard deviations). To determine whether there was a significant relationship between intrinsic goal orientation for learning geography, self-efficacy for learning, and performance in geography and metacognitive self-regulated geography learning with Bhutan geography achievement of Grade 8 students, correlational analysis (using multiple correlation coefficient, *R*) was used.

Population and sample

The total number of students enrolled in Grade 8, Druk Higher Secondary School was 49 as of Term 2, November 2020. The sample size was comprised of a convenience population sample of 49 students who were studying geography as of Term 2, November 2020 (20 female and 29 male).

Research Instrument

There were two research instruments used in this study. The first was the Motivated Strategies for Learning Geography Questionnaire (MSLGQ) to assess the level of intrinsic goal orientation for learning geography, self-efficacy for learning and performance in geography, and metacognitive self-regulated geography learning. The second was the End of Term 2 Bhutan geography examination of the Academic Year 2020 which assessed the students' Bhutan geography achievement.

Motivated Strategies for Learning Geography Questionnaire

The Motivated Strategies for Learning Geography Questionnaire (MSLGQ) was adapted from the *Motivated Strategies for Learning Questionnaire* (MSLQ) created by Pintrich et al. (1991). The 81 items of the MSLQ are divided into six subscales under motivation and nine subscales under learning

strategies. The current study adapted two subscales from the motivation section, i.e., intrinsic goal orientation and self-efficacy for learning and performance, and one subscale from the learning strategies section, i.e., metacognitive self-regulated learning, adapting them to focus on the geography learning context in Bhutan. Table 1 below shows the internal reliability of subscales used in two previous studies and in this study.

Table 1. *Internal Reliability of the MSLGQ*

Questionnaire	Number of items	Cronbach's alpha value		
		Pintrich et al. (1991)	Khosim and Awang. (2020)	Current study
Intrinsic Goal Orientation	4	.74	.81	.62
Self-efficacy for learning and performance	8	.93	.74	.87
Metacognitive self-regulated learning	12	.79	.64	.83

The items in the subscales used a 7-point Likert-type scale, ranging from 1 denoting "not *at all true of m*e" to 7 denoting "*very true of me."* The score was interpreted using equal intervals, as shown in Table 2.

Table 2. *Interpretation of the Scores of Motivated Strategies for Learning Geography Questionnaire*

Likert-type scale	Score	Scale	Interpretation
Not at all true of me	1	1.00 – 1.50	Very low
	2	1.51 – 2.50	Moderately low
	3	2.51 – 3.50	Slightly low
	4	3.51 – 4.50	Neither high nor low
	5	4.51 – 5.50	Slightly high
	6	5.51 – 6.50	Moderately high
Very true of me	7	6.51 – 7.00	Very high

End of Term 2 2020 Bhutan Geography Examination

The Bhutan geography achievement was measured using the End of Term 2 Bhutan geography examination of the Academic Year 2020. The Bhutan geography examination was developed by the subject teacher and the head of the geography department of Druk Higher Secondary School. The question paper was moderated by the head of the geography department and further moderated by the Principal of Druk Higher Secondary School. The examination was divided into two parts, i.e., Section A comprising 50 Single

Response items and Section B comprising 15 varied response items, e.g., short answer questions. The reliability of the single response items was estimated using a split-half method to measure the internal consistency of the test, as presented in Table 3.

Table 3. *Internal Reliability of the Objective Items of End of Term 2 Geography Examination*

Measures			Coefficient
Cronbach' alpha	Part 1	Value	.65
		N of items	13
	Part 2	Value	.73
		N of items	12
	Total *N* of items		25
Correlation between forms			.54
Spearman-Brown coefficient	Equal length		.71
	Unequal length		.71
Guttman Split-Half coefficient			.70

Further, the 15 Items in Section B of the question paper were graded by two geography teachers to generate inter-rater reliability. The teachers used one marking scheme to find the average of two scores from the raters. The grades indicated minor difference from both raters (M = 31.48, SD = 7.86). The percentage agreement of the two raters was 99.5%. This suggested that the inter-rater reliability was high. The total scores of the examination are interpreted as indicated in Table 4.

Table 4. *Interpretation of the End of Term 2 Bhutan Geography Achievement*

Geography score	Interpretation
0-20	Very low
21-40	Low
41-59	Moderate
60- 79	High
80-100	Very high

Findings

Research Objective 1

Research objective 1 of the study was to determine the level of intrinsic goal orientation for learning geography of Grade 8 students at Druk Higher Secondary School in Thimphu, Bhutan. The objective was determined by calculating the mean scores of students' level of intrinsic goal orientation for learning geography using descriptive statistics as presented in Table 5.

Table 5. *Mean, Standard Deviation, and Interpretation for Students' Intrinsic Goal Orientation for Learning Geography*

N	*M*	*SD*	Interpretation
49	4.24	1.08	Neither high nor low

Based on the data in Table 5, the mean score of intrinsic goal orientation for learning geography for 49 Grade 8 students was 4.24. This, according to the interpretation of the score given in Table 2, is considered as neither a high nor a low level of intrinsic goal orientation for learning geography.

Research Objective 2

Research Objective 2 of the study was to determine the level of self-efficacy for learning and performance in the geography of Grade 8 students at Druk Higher Secondary School in Thimphu, Bhutan. The objective was determined by calculating the mean scores of students' level of self-efficacy for learning geography using descriptive statistics as presented in Table 6.

Table 6. *Mean, Standard Deviation, and Interpretation for Students' Self-Efficacy for Learning and Performance in Geography*

N	*M*	*SD*	Interpretation
49	4.97	.98	Slightly high

Based on the data in Table 6, the mean score of self-efficacy for learning and performance in geography for 49 Grade 8 students was 4.97. This, according to the interpretation of the score given in Table 2, is considered a slightly high level of self-efficacy for learning and performance in geography.

Research Objective 3

Research Objective 3 of the study was to determine the level of metacognitive self-regulated geography learning of Grade 8 students at Druk Higher Secondary School in Thimphu, Bhutan. The objective was determined by calculating the mean scores of students' level of metacognitive self-regulated geography using descriptive statistics as presented in Table 7.

Table 7. *Mean, Standard Deviation, and Interpretation for Students' Metacognitive Self-Regulated Geography Learning*

N	*M*	*SD*	Interpretation
49	4.22	1.03	Neither high nor low

Based on the data in Table 7, the mean score of metacognitive self-regulated geography for 49 Grade 8 students was 4.22. This, according to the interpretation of the score given in Table 2, is considered neither a high nor a low level of metacognitive self-regulated geography.

Research Objective 4

Research Objective 4 of the study was to determine the level of Bhutan geography achievement of Grade 8 students at Druk Higher Secondary School in Thimphu, Bhutan. The objective was determined by calculating the mean scores of students End of Term 2 Bhutan geography achievement using descriptive statistics as shown in Table 8.

Table 8. *Means, Standard Deviations, and Interpretations of Druk Higher Secondary School, Grade 8 Students Bhutan Geography Achievement*

N	M	SD	Interpretation
49	61.80	17.08	High

Based on the data in Table 8, the mean score of students' geography achievement of 49 Grade 8 students was 61.80. This, according to the interpretation of the score given in Table 4, is considered a high level of Bhutan geography achievement.

Research Objective 5

Research objective 5 of the study was to determine if there was a significant relationship between intrinsic goal orientation for learning geography, self-efficacy for learning and performance in geography, and metacognitive self-regulated geography learning with Bhutan geography achievement of Grade 8 students at Druk Higher Secondary School in Thimphu at the End of Term 2 of the Academic Year 2020. The objective was determined by multiple correlation analysis (using multiple correlation coefficients). The research first calculated the bivariate correlations among the independent variables and dependent variables to examine the correlations as presented in Table 9.

Table 9. *Bivariate Correlation Between Intrinsic Goal Orientation for Learning Geography, Self-Efficacy for Learning and Performance in Geography and Metacognitive Self-Regulated Geography Learning and*

Bhutan Geography Achievement of Druk Higher Secondary School, Grade 8 students (N = 49)

Variables	1	2	3	4
Intrinsic goal orientation for learning geography	-			
Self-efficacy for learning and performance in geography	.68** (<.001)	-		
Metacognitive self-regulated geography learning	.62** (<.001)	.59** (<.001)	-	
Bhutan geography achievement	.35* (.013)	.40** (.004)	.52** (<.001)	-

Note. ** indicates that correlation is significant at the .01 level (2-tailed), and * indicates that correlation is significant at the .05 level (2-tailed). *P*-value appears within parenthesis below the correlation coefficients.

Table 9 shows a significant relationship between each of the independent variables and the dependent variable at the .05 level. The multicollinearity was not an issue since the correlation between the independent variables was relatively moderate. Therefore, further multiple correlation analysis (using multiple correlation coefficient) was calculated as presented in Table 10.

Table 10. *Multiple Correlation Coefficient Analysis Between Intrinsic Goal Orientation for Learning Geography, Self-Efficacy for Learning and Performance in Geography and Metacognitive Self-Regulated Geography Learning with Bhutan Geography Achievement*

Independent variables	*R*	R^2	*dfs* Between groups	*dfs* Within groups	*F*	*p*
Intrinsic goal orientation for learning geography, self-efficacy for learning and performance in geography and metacognitive self-regulated geography learning	.53	.28	3	45	5.94	.002

Table 10 indicated that there is a significant, moderately strong positive correlation between intrinsic goal orientation for learning geography, self-efficacy for learning and performance in geography, and metacognitive self-regulated geography learning with Bhutan geography achievement ($R = .53$, $p < .05$) at a significance level of .05. The multiple correlation coefficient obtained indicates that the three independent variables account for 28% of the

variance of the dependent variable, R^2 = .28. The other 72% of the variance of geography achievement is explained by other factors.

Discussion

The findings of the study indicated a significant, moderately strong positive relationship between the independent variables, i.e., intrinsic goal orientation for learning geography, self-efficacy for learning and performance in geography, and metacognitive self-regulated geography learning with the dependent variable, Bhutan geography achievement. The combined independent variables explained 28% of the variance on the dependent variable. The findings support the previous study with the explanation that an increase in the level of one of the variables of students increases the level of the other three variables and vice versa. That is, the more a learner is intrinsically goal orientated to learn geography, the level of self-efficacy for learning and performance in geography increases and the better the metacognitive self-regulated geography learning level, all of which together leads to higher Bhutan geography achievement.

The findings were expected considering a significantly moderately strong, positive relationship between the independent variables and the dependent variable. Intrinsically goal-orientated learners tend to engage in specific activities for their development stimulated through curiosity, interest, and/or enjoyment, which helps them develop strong goal-oriented self-efficacy and have greater control of their learning (Chyung et al., 2010; Radovan & Makovec, 2015). Learners select and transform information, construct hypotheses, and make decisions by relying on a pattern of thought to seek information beyond what they currently know. Students who believe in their abilities to learn and perform take responsibility for their own learning and are successful in achieving their learning outcomes and goals (Zimmerman, 2005). While learners who lack self-efficacy and intrinsic motivation tend to acquire knowledge by depending on the guidance of others (e.g., teachers and parents), which may result in a low level of learning (Bhutan Council for School Examination and Assessment, 2019; Cheng, 2011; Kuisma, 2018). If learning takes place based on the sole authority of a teacher, it inevitably derails authority and confidence from the learner (Tan et al., 2005). The current study has reflected an understanding stating that a learner's willingness is believed to develop based on the growing awareness of personal functions, including cognition, motivation, and affect (Kivinen, 2003).

Recommendations

Recommendations for students

Based on the findings of this study, students should set a growth mindset in learning geography to possess skills required for the 21st century. Through a dedicated practice of reflective thinking, students should further be able to enhance their curiosity and creativity. This further should promote intrinsic goal orientation to learn geography and self-efficacy to learn and perform in geography. This will increase their scores in Bhutan geography.

Recommendation for teachers

The findings of this study have demonstrated that Bhutan geography achievement can be increased by increasing the intrinsic goal orientation for learning geography, self-efficacy for learning and performance in geography, and metacognitive self-regulated geography learning. Teachers should teach the geography curriculum in ways that will generate curiosity by setting challenging tasks which are achievable for the learners. Teachers should exploit textbooks as one of the teaching/learning resources and promote geography learning through various other methods like, e.g., field trips, inquiry-based learning activities, learning by doing, and flipped classroom activities. As Bandura's concept of the social cognitive theory states, learning takes place in a social environment with a dynamic and reciprocal interaction of the students, the social environment in which they learn and live, and their behavior (LaMorte, 2019, September 9).

Recommendation for curriculum developers

Based on the findings of this study, the researcher suggests curriculum developers develop and design Bhutan geography curricula that will elevate learners' analytical, evaluative, and critical thinking skills. Learners should be able to make comparative judgments between the environment in Bhutan and that in other countries. The curriculum developers should also more frequently facilitate and encourage teacher professional development, seminars, and research to enhance geography teaching approaches. Alongside teaching and learning strategies, content in the textbooks should be updated with current subject information.

Recommendations for future researchers

As this study was limited to one of the grades, i.e., Grade 8 students in a private school in Thimphu, Bhutan. The researcher recommends future researchers consider a bigger sample size of different grade levels and school settings to get a broader perspective of geography teaching and learning in schools in Bhutan as well as in other countries in the region and beyond. They should also consider examining the role of other research variables such as critical

thinking strategies, task value, and effort regulation in the Bhutan geography learning context.

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