

Continuous Professional Development Programme Needs of Secondary School Geography Teachers

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ABSTRACT: *In light of the changing dynamics and developments in the education system, the professional development (PD) of teachers is seen as a crucial means to improve the competencies of teachers. There have been numerous prior studies that examined the need for teacher professional development in various educational contexts. However, research in this area is extremely scarce in Bhutan. The main aim of this study was to examine the perceptions of geography teachers in the western region of Bhutan regarding the need for professional development. The study was conducted based on the pragmatic paradigm and included an explanatory sequential mixed-method design. Considering the need of the study and the methodology designed, the study employed stratified simple random sampling for the survey and non-probability purposive sampling for Focus Group Discussions (FGDs). A total of 104 geography teachers participated in the survey, and 10 teachers participated in FGDs, which were conducted in two groups. The findings of the study revealed that most teachers could not meet the 80 hours of PD requirement. The findings also indicated that the most needed professional development areas for the teachers were subject content, instructional technology and designs, assessment and evaluation, special education, and research. It was determined that some of the participants needed professional development in the areas of teaching strategy and classroom management. The study suggests that the Ministry of Education (MoE) and other relevant stakeholders provide subject-based PD Programmes that respond to teachers' needs.*

KEYWORDS: Teacher professional development programme, professional development needs, and Effective PD Programme.

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1. Introduction

Teachers are the cornerstone of the education system. Teachers not only influence the prospects of their students but also decide the future of the country in general. According to James (2014, as cited in McKinsey, 2007), “quality of education cannot exceed the quality of teachers”. Teacher quality matters, and the only way out is to continually learn to keep up with the changing needs of each school system (Dhendup et al., 2021). It is important for teachers to constantly update and improve their professional and pedagogical knowledge and skills for effective teaching through continuous professional development programmes. A teacher’s professional development programme is defined

as activities that develop a person’s skills, knowledge, expertise, and other qualities as a teacher (Royal Education Council [REC], 2018, p.26). It is observed that teachers who participate in professional development (PD) programmes contribute more not only to students’ academic excellence but also to salutary achievements (Hickey & Schmidt, 2019; Reimer, 2003). Findings of the same studies also showed that continuous professional development of teachers plays an important role in delivering quality education.

In all nations, professional development is crucial for the growth and development of human resources. In the 1960s, the professionalization of educators gained popularity in the United

States (Vu et al., 2014). In Bhutan, recognizing the significance of ongoing professional development programs for teachers, the Ministry of Education (MoE) established the Teacher Professional Support Division (TPSD) in 2016 to organize professional development programs for teachers. The MoE mandated 80 hours of professional development for all teachers across the country (MoE, 2014). Consequently, the MoE offered professional development courses on “Transformative Pedagogy” and “English for Effective Communication” to all teachers throughout the nation in July 2016 and July 2017, respectively. Additionally, the MoE conducted nationwide professional development for teachers in ‘Neuroscience-based Mindfulness and Emotional Intelligence and Helping Skills to Enhance Professional Skills and the Wellbeing of Teachers.’

Furthermore starting in 2019, in order to upgrade and up-skill Schools were asked to set aside Saturdays for professional development programmes for teachers across the country. Schools were then required to keep a database of the instructors who participated in professional development programmes. Not all the teachers take part in or go to professional development in the schools seriously. As a result, declaring Saturday as a holiday has gained popularity in many schools.

On the other hand, with the introduction of the New Normal Curriculum in 2020, teacher professional development has become more important. Continuing professional development is the best aid in bringing curriculum initiatives to the teachers who have first-hand experience with the materials and practices of the initiatives. Professional development quite often acts as an extrinsic motivation for teachers to perform to their best despite their busy and structured workload. Regardless of the dynamic curriculum and resources allocation, a curriculum’s goals will not lead to a successful outcome if teachers do not take professional development seriously. Therefore, there is an urgent need to examine teachers’ perspectives on professional development programmes needs.

2. Literature review

This section attempts to review the existing literature on instructional technologies and designs, instructional strategy, classroom management, assessment and evaluation, subject content, and research is presented.

One of the fundamental skills of teaching has quickly been recognized as technological literacy. Teachers must be ready to incorporate technology into their teaching methods in order to meet the needs of students in the twenty-first century. The Royal Kasha on Education Reforms (2020) states that in order to best prepare our children for the future, we must use current technologies, adopt international best practices, and establish a teaching-learning environment that meets our needs. Unfortunately, it shows that technology is often not properly incorporated into classroom learning activities, mainly due to a lack of teachers’ lack of competence in ICT knowledge and skills. According to Dorji (2020), one of the main barriers to ICT integration in Bhutanese schools is a lack of ICT skills among teachers. Similar to this, Pelgrum asserted, as cited in Bindu (2019), that teachers’ lack of ICT literacy in developing countries is a significant barrier to the adoption of ICT in education. Therefore, studies by (Becker, 1999; Hart et al., 2002) have found that word processing, and practicing basic skills are the most commonly used applications in the classroom, while using applications that require analytical thinking and problem solving through simulations, other media are used comparatively less frequently. Similar findings were made by Mitchem et al. (2003), who discovered that many teachers have not embraced these advancements and do not use instructional technologies in their classrooms. Consequently, it was decided that a professional development programme in instructional technology and design was required to enhance teachers’ proficiency in integrating technology into classroom practice. To prevent teachers from becoming estranged from their students, the Royal Kasha on Education Reforms (2020) suggests that technology, digitization, artificial intelligence, and automation be incorporated into teachers’ professional development.

In addition, several studies have also shown that there is a need for teacher PD programmes in teaching strategies. For example, when the Organization for Economic Cooperation and Development (OECD) surveyed teachers from different countries in 2016, results revealed that more than half of the participating Teachers expressed the need for professional development in relation to teaching strategies (Barrera-Pedemonte, 2016). The author further explained that the high-quality of PD programme is widely associated with the likelihood of reporting a variety of teaching practices in a significant number of countries and economies. Similarly, a study conducted by Pasha et al. (2019) found that most teachers (over 40%) were interested in professional development geared towards different teaching methods in the classroom. Introducing teachers to new and advanced teaching strategies that are widely used in other countries help foster learning development in both teachers and students. According to Wangmo (2018), teachers' pedagogical knowledge and pedagogy has a significant impact on the quality of education. However, Gokmenglu (2016) found that training in teaching strategy is often not required as they have included the training in their undergraduate courses.

In addition, inclusive education is increasingly being adopted by many educational institutions across the world due to its numerous benefits. This was used to determine the need for teacher training in working with students with special needs. For example, according to Byrd and Alexander (2020), special education teachers (SPED) are no longer solely responsible for teaching students with special needs. Similar to the study by Karlberg and Bezzina's (2020), the need for professional development programs in Singapore is mainly in the area of special education for teachers. For example, Dukpa (2014) states that teacher training is a crucial step to advance inclusion in Bhutan. Furthermore, Rea et al. (2001) found that student in inclusive education performed better academically and had fewer behavioral problems than students in extensible special education programs.

Teachers' ability to organize classrooms and control their students' behavior is critical to

achieving educational outcomes. Therefore, a systematic approach to teacher preparation and an ongoing PD programme is needed to improve teachers' ability to effectively manage classrooms (Oliver & Reschly, 2007). Otherwise, the lack of supervised experience and professional development in essential classroom management skills significantly reduces the effectiveness of many teachers (Badri et al., 2016; Smally et al., 2019). However, the results of (Siebert, 2005; Zdemir, 2013) indicate that general knowledge and classroom management are among the least necessary PD programs. The authors also noted that PD programs given to teachers were often perceived as overly theoretical or disconnected from the actual classroom environment.

Studies have also shown that due to change in practice, it is necessary for teachers to orientate themselves in student assessment and evaluation. For example, Continuous Formative Assessment (CFA) has increased from 20% to 60% as compared to previous assessments at key stages III and IV (Department of Curriculum and Professional Development (DCPD) (2021). Kirkpatrick and Gyem (2012) found that most Bhutanese teachers are unsure or have limited knowledge of the new assessment system, making it difficult for them to carry out their assessment practices as intended, hence the finding of Yenen and Yöntem (2020) also highlighted the needs for the provision of training for teachers to assess and evaluate students. Furthermore, more training and stimulation of teachers would encourage them to be more engaged in the assessment process (Kirkpatrick & Gyem, 2012).

Studies also indicate a greater need for content-based professional development programmes (Dhendup et al., 2020; Pasha et al., 2019; Widodo, 2018). Furthermore, Karlberg and Bezzina (2020) found that in Sweden, the PD programmes that focused on pedagogical content knowledge, subject-content knowledge, and special education have shown a significant impact on teacher development. Furthermore, as noted by (Desimone et al., 2009; Mundry, 2005), effective PD has a strong content focus that involves active learning and collaboration for learners. This is because providing effective

content-based professional development can increase their effectiveness in teaching their subject, hereby having a positive impact on student learning (Desimone et al., 2009; Nadelson, 2012). On the other hand, Dhendup et al. (2021, p.36) affirm that the professional development programs for school teachers in Bhutan are usually not related to their subject areas, but rather focused on improving the general knowledge of Bhutanese teachers. It is thus evident that subject-specific PD programmes were considered necessary across the various educational institutions.

Education reforms around the world require teachers to infuse their students 21st-century skills. One approach to achieve this is to encourage teachers to get involved in educational research. According to Wong (2013), teachers should methodically examine their practices. The teacher development programme is one way for teachers to do this. Similarly, the findings of (Koc and Ince (2015) as well as Yenen and Yöntem (2020) also suggest that the most urgently needed professional development areas of teachers are research, special education and global competence. The authors further suggest that more importance should be given to scientific principles and quantitative data analysis techniques. However, according to Wong (2013), these research PD programmes require a significant investment of time and effort from teachers. As many teacher educators have noted, one-off workshops are ineffective in helping teachers with these complex skills (Darling-Hammond & Richardson, 2009). This clearly shows that longer and more in-depth PD programmes are needed to ensure effective learning in research.

Thereby, this study was carried out based on Knowles' theory of adult learning, also known as andragogy. Knowles emphasized that learning is a lifelong goal and should be tailored to the unique needs of adult learners. The study aimed to explore geography teachers' perceptions of their professional development (PD) needs using the assumptions made by adult learners according to Knowles et al. (2005). These assumptions include the idea that adults learn what they need to know,

are responsible for their own learning, draw on their unique life experiences, are motivated by the relevance of learning to their work or life situations, and respond more strongly to internal motivation. By employing the andragogy theory, the study aimed to understand how PD programs can be designed to meet the specific needs of adult geography teachers

3. Methodology

This study employed an explanatory sequential mixed method design. The quantitative data was collected through survey questionnaires, mainly to understand the need for professional development programmes for Geography teachers in secondary schools. The qualitative data were gathered using semi-structured Focus Group Discussions to explain the preliminary quantitative survey results.

3.1. Study area

The study was conducted in the secondary schools of the western region of Bhutan. It consists of five districts namely; Thimphu, Paro, Haa, Chhukha, and Samtse. The five districts have 172 schools with 164 geography teachers, including private schools ranging from extended classrooms to higher secondary schools. The western region was chosen as the study area because it has the highest number of teachers and students in the region. It also has the highest number of secondary schools in the country. In addition, there is also a balanced representation of secondary schools by level (lower, middle, and higher secondary schools) and by type (rural, semi-urban and urban).

3.2. Sampling strategy

A random sampling was used to select secondary geography teachers from the western region of the country. Based on Cochran's (1977) method of determining sample size, 104 secondary geography teachers were selected for the survey with a 96% confidence level and a 0.6% margin of error. Likewise, two groups of FGDs were conducted with the selected secondary school geography teachers of five districts (Thimphu, Paro, Haa, Chhukha and Samtse) of the western region.

3.3. Data Analysis

The qualitative data were analyzed thematically using six-phase thematic analysis approaches to discover results through interpretations (Braun & Clarke, 2012). Likewise, for qualitative data the descriptive (mean and standard deviation) and percentage statistical tests were conducted.

4. Results and Discussion

4.1. Demographic profile of the participants

A total of 104 geography teachers took part in the survey, out of which 53.8% were male and 46.2% were female. The majority of participants (42.3%) have a Bachelor in Education (B.Ed.) degree qualification while 0.9% have completed Primary Teacher Certificates (PTC). Another demographic variable considered was the number of years the participants had been living in the teaching service. Of the total participants, 58 have lived in the service for fewer than 5 years, and two have lived in the service for more than 21 years. Similarly, 10 geography teachers in total took part in two focus group discussions (FGDs).

4.2. Duration of professional development programme attended within last one year

Teacher professional development programmes are offered mainly in three modalities: national-based *in-service programme* (NBIP), dzongkhag-based *in-service programme*

(DBIP), and school-based *in-service programme* (SBIP) levels. According to the mandate, every teacher shall receive a minimum of 80 hours of need-based PD programme in a year organized at different modalities.

Out of 104 total participants, 37 (35.5 %) of them attended 1-10 hours and 15 (14.4%) of them attended 31-40 hours, while 35 (33.6%) of them never availed any national-based in-service programme (NBIP) in the year 2021, as shown in Table 1.

Out of 104 total participants, 26 (25 %) of them attended 1-5 hours and 7 (6.7%) of them attended 20 and above hours, while 44 (42.3%) of them never availed any dzongkhag-based in-service programme (DBIP) in the year 2021, as shown in Table 2.

Out of 104 total participants, 18 (17.3 %) of them attended 1-5 hours and 24 (23.07%) of them attended 20 and above hours, while 10 (9.6%) of them never availed any school-based in-service programme (SBIP) in the year 2021, as shown in Table 3.

This clearly indicates that the majority of the participants could not meet the 80 hours of professional development requirement as mandated by the Teacher Human Resource Policy (THRP) 2014 and In-service Education of Teacher (MoE, 2014). This finding also in line with Dendrup et al. (2021), which revealed that many teachers in the Thimphu district could not

Table 1. Duration of NBIP received by teachers in last one year

Duration (Hours)					
1-10	11-20	21-30	31-40	None	Total
16	2	1	2	2	23
5	0	2	6	10	23
9	0	0	2	12	23
5	3	2	3	1	14
1	1	1	0	0	3
1	4	0	0	3	8
0	1	0	2	0	3
0	0	0	0	7	7
37	11	6	15	35	104

Table 2: Duration of DBIP received by teachers in last one year

Duration (Hours)						Total
1-5	6-10	11-15	16-20	20 and above	None	
10	3	0	1	0	2	16
7	1	1	3	2	4	18
8	4	0	1	2	23	38
0	3	0	4	0	0	7
0	1	0	0	0	0	1
0	1	1	1	1	1	5
0	0	0	0	2	0	2
1	0	0	0	0	14	15
26	13	2	10	7	44	102

Table 3. Duration of SBIP received by teachers in last one year

Duration (Hours)						Total
1-5	6-10	11-15	16-20	20 and above	None	
5	3	4	3	1	0	16
6	5	4	4	4	2	25
5	4	1	4	6	5	25
0	3	2	4	8	0	17
0	0	1	0	0	0	1
2	1	2	1	1	0	7
0	1	1	4	3	0	9
0	0	0	0	1	3	4
18	17	15	20	24	10	104

meet the 80 hours of professional development requirement. In the same study, most of the teachers in Thimphu have argued that 80 hours of PD programme is unachievable and unrealistic. This could be attributed to various factors such as lack of allocated time for PD, added responsibilities of teachers such as administrative work, clubs, games and sports, students' welfare and discipline. Similarly, Dorji (2020) asserted that teachers are overloaded with academic and non-academic activities.

The finding of this study also indicates that teachers have availed most hours of professional development programmes at the school level

(SBIP) from numerous short courses, training, and peer mentoring offered at the department and school levels, which are mostly resourced by teacher colleagues of the school. The findings of Dendrup et al. (2021) also found that the opportunity to attend NBIP and DBIP for all teachers was very less, which resulted in the majority of teachers attending SBIP.

Consequently, it inferred that in order to achieve the 80 hours of the PD requirement as per the mandate, it is important that the MoE and relevant agencies adopt various measures, including re-examining the mandate of 80 hours of the PD programme to be attended by teachers,

finding time set aside for PD, provide more of subject-specific PD and minimize non-academic PD that is not directly applicable in classroom practices.

4.3 Teachers' perception of PD programmes

The overall mean score for theme “teachers’ perception on PD programme” was (N = 104, M = 4.08, SD = 1.41), indicating that the professional development programmes they received were somewhat effective as presented in table 4.

Similarly, all FGD participants agreed that PD programmes helped them to enhance their professional and personal growth. For example, FGD 1 shared “*PD programmes enhance our professional competence. They help us to improve our professional practices—teaching, learning, and assessment*” However, the majority of the participants were also with the view that the PD programmes they received were not very useful in teaching geography. For instance, FGD2 shared, “*Generally, I think PD programmes are useful. However, not all the PD programmes are subject-oriented which makes them less effective.*”

Participants felt that teachers need to constantly update their knowledge and teaching skills throughout their careers. This finding is consistent with a similar finding by Teachers’ Job

Satisfaction in Bhutan (2013), which revealed that 86% of the teachers considered continuous professional development as very important. Similarly, the MoE also recognized PD as an important aspect of teachers’ development and leadership (MoE, 2014). However, Dorji (2020) found that the majority of the professional development programme offered did not address the main concerns of classroom realities. Most of the PD programmes received from the MoE and other relevant agencies have been of a general and non-academic focus such as clubs, school improvement, scouting, games, and sports. Furthermore, professional development programmes are short and do not correspond to classroom practice as indicated by (Pinho & Andrade, 2015; Miller, 2013; Feighan & Heeren, 2009). Most of the PD programme offered are short courses and only covers the basic information that may not contribute to teacher development. This shows the significance of evaluating both the quantity and quality of PD programmes in order to enhance teachers’ subject content knowledge and competencies.

4.4. Teachers’ professional development programme needs

The PD programme need of the teachers is examined based on six sub-themes: instructional technologies and designs, teaching strategy,

Table 4 Teachers’ perception of PD Programme

Items	N	Mean	SD
The knowledge I gained from the National Based-In-service Programmes (NBIP) is relevant to my teaching.	104	4.09	1.48
The knowledge I gained from the Dzongkhag Based-In-service Programmes (DBIP) is relevant to my teaching.	104	3.92	1.58
The knowledge I gained from School Based-In-service Programmes (SBIP) is relevant to my teaching.	104	4.26	1.43
The continuous professional development programmes are resourced by a competent resource person.	104	3.81	1.31
I use the knowledge and skills gained from continuous professional development programmes on a regular basis in my teaching.	104	4.15	1.32
The professional development programmes I attended helped me to improve my professional practice.	104	4.21	1.28
Overall	104	4.08	1.41

classroom management, assessment and evaluation, subject content and research.

The overall mean score for the PD needs in Instructional technologies and design is (N=104, M = 4.3, SD: 1.32) indicating that there is a need for the PD programme. This indicates that teachers lack adequate knowledge and skills in instructional technologies and designs. In the Focus group discussion, FGD1 expounded “*I feel that most of us are still not well equipped with ICT knowledge and skills, and therefore PD programme in this area is very much required*”. They mentioned various reasons for the need for PD programmes in instructional technologies and design. Insufficient ICT related training, lack of access to ICT facilities and competent resource person. A similar conclusion was reached by Dorji (2020), that one of the main obstacles to ICT integration in Bhutanese schools is the fact that many teachers lack the skills to use ICT in daily teaching and learning practices. Further, he found that limited access to ICT facilities and insufficient professional development programmes for integrating technology into the existing curriculum are major hindrances to ICT integration in schools. In this regard, Tondeur et al. (2016) state that basic ICT knowledge and skills will not be enough to transform education. The lack of adequate knowledge and skills in instructional technologies and designs may be attributed to a number of factors, such as limited access to ICT facilities, predominated by traditional teaching methods, and insufficient training in these areas (Hart et al., 2002). This clearly indicates that teachers need to go beyond basic ICT knowledge and skills, to create a teaching-learning environment that meets the requirements of the current digital world. As

stated in Royal Kasho on Education Reforms (2020), in order to best prepare our youth for the future, we must make use of current technologies, adopt international best practices, and design a teaching-learning environment that meets our requirements. Thus, PD programme in ICT must focus on areas which fulfil the current requirements of 21st-century students.

The overall mean for the theme PD programmes needs in teaching strategies is (N = 104, M = 4.08, and SD = 1.14), which indicates that there is a need for PD programmes in teaching strategies. Most participants felt that there is a need to update with new teaching strategies as the strategies currently used in the classroom are no longer effective. This finding is supported by Dorji et al. (2020), who found that the currently practiced transformative pedagogy makes the pace of classroom teaching slow and becomes difficult to cover syllabi on time. The need to replace outdated teaching strategies with new and emerging ones was also felt in other countries around the world. For instance, Barrera-Pedemonte (2016), a survey of teachers from different countries by the Organization for Economic Corporation and Development (OECD) revealed that more than half of the participating teachers expressed the need for professional development in relation to teaching strategies. Introducing teachers to new and advanced teaching strategies that are widely used in other countries could help promote learning development in both teachers and students. Wangmo (2018) also reported that the pedagogical knowledge and pedagogy used by teachers will have a significant impact on the quality of education. Likewise, a study by Karlberg and Bezzina (2020) on the professional

Table 5. Instructional Technologies and Design

Items	N	Mean	SD
I have adequate knowledge of instructional technologies	104	3.98	1.15
I have the required skills to design learning materials for students using ICT	104	4.05	1.25
I need to upgrade my knowledge on designing learning materials using ICT	104	4.60	1.43
I need to upgrade my skills on designing learning materials using ICT	104	4.70	1.43
Overall	104	4.3	1.32

Table 6. Teaching strategy

	N	Mean	SD
I have adequate knowledge of teaching strategies.	104	4.10	1.13
I have the required skills to incorporate various teaching strategies	104	4.16	1.15
PD programmes received on teaching strategies are effective.	104	4.18	1.34
I need training on the use of different teaching strategies.	104	4.43	1.33
I can easily use various teaching strategies in my lessons.	104	4.14	1.21
I feel competent enough to make students think critically	104	4.06	1.16
I can easily improve my students thinking abilities	104	3.92	1.07
I feel the need to develop myself in preparing appropriate learning environments in the classroom	104	4.22	1.26
I need training on teaching students with special needs	104	4.72	1.41
Over all	104	4.08	1.14

development needs of beginning and experienced teachers in Sweden found that the previous PD programme on pedagogy and subject content had a positive impact on teachers’ development. In the same study, participants expressed a need for similar PD programmes in the upcoming programme both in terms of pedagogical and professional content.

The majority of the FGD participants also stated that many teachers have not received any PD programmes for teaching students with special needs. Therefore, this study suggests a need for professional development in instructional strategies for students with special needs. This result is consistent with SCE (2020), which found that teachers have not participated in any formal professional development programme or training on inclusive education. In this regard, Dukpa (2014) argued that educating and training teachers is a crucial step in taking inclusion forward in Bhutan. Participants in this study stated that despite their lack of training, teachers must deal with students of different abilities to fulfil the mandate of inclusive education. As stated by Dukpa (2014), currently in Bhutan, students with mild to moderate learning disabilities are integrated into mainstream schools. Likewise, Byrd and Alexander (2020) stated that in the current educational environment, special education teachers (SPED) are no longer solely

responsible for teaching special needs students. Participants of the same study stated that such training must be offered so that they could provide adequate support to students with special learning difficulties. Given its significance and requirements for inclusive education, it can be concluded that all teachers across the country should have access to professional development programmes in the field.

However, some participants of this study claimed that a PD programme in instructional strategy is not necessary. This finding is consistent with Gokmenglu (2016) as they have taken up the training in their undergraduate courses. The teachers felt that unless PD were new and related to teaching strategies, they do not need PD on teaching strategies. This shows that the MoE and other stakeholders involved in facilitating PD programmes must plan and facilitate new teaching approaches that are appropriate for the Bhutanese classroom settings.

The overall mean for the theme PD needs in classroom management is (N = 104, M = 3.91, and SD = 1.35) indicating the needs of PD programmes on classroom management. As the majority of FGD participants agreed that professional development programmes for classroom management are necessary. For example, FDG 2 stated:

“The ability of teachers to manage the

Table 7. Classroom management

Items	N	Mean	SD
I have adequate knowledge of management of the students in the classroom	104	4.14	1.24
I have the skills to manage students in a classroom.	104	4.12	1.26
I need the training to cope with undesired behaviors in the classroom.	104	4.41	1.39
I do not have difficulty preventing students from engaging in activities that negatively affect the lesson.	104	3.14	1.38
I need to learn how to build a classroom management system that is appropriate for different student groups.	104	4.25	1.39
The differences in the learning abilities of the students do not affect my classroom management skills.	104	3.43	1.41
Overall	104	3.91	1.35

classroom is very essential. However, a lot of us face challenges in managing the class. Most of the classes have a large number of students with different learning abilities and some with disruptive behaviors. Few years ago, we received a PD programme on the 21st-century Kagan structure, which also includes a number of classroom management techniques. However, the current classroom environment does not allow for the use of these strategies. I feel that there is urgent need to come up with another widely used and applicable teaching strategies”.

The same concept was also expressed by FGD1 participants, who stated that it is easy to manage if there are a smaller number of students in the classroom. However, it becomes challenging to control if the strength is higher. Furthermore, managing students in urban areas is quite challenging due to more students and their disruptive behavior. Therefore, the results of the study suggest that there is a need for a PD programme in classroom management. As stated by Oliver and Reschly (2007), a systematic approach to teacher preparation and an ongoing PD programme are required to improve teachers’ ability to effectively manage the classroom. Otherwise as reported by Smally et al. (2019) and Badri et al. (2016), the lack of supervised experience and professional development in essential classroom management skills significantly reduces the effectiveness of many teachers. Thus, providing PD on classroom management can enhance effective management

of the classroom so that it can foster better learning in students.

However, the result of the study also shows that a PD programme is not required in classroom management as the majority of the PD programmes they received were perceived to be theoretical and not practical in the classroom. For instance, FGD 1 shared, “*The basic classroom management strategies were mostly theoretical, that does not applied to our context..*”. The finding is consistent with the similar finding of Zdemir (2013) and Siebert (2005), who stated that PD programmes offered to teachers were mostly theoretical or detached from the actual classroom. This indicates that PD facilitators such as MoE and other agencies should offer trainings that are more practical and applicable in real classroom settings.

The overall mean for the PD programme needs in assessment and evaluation is (N = 104, M = 4.12, and SD = 1.30), indicating that there is a need for PD programmes in students’ assessment and evaluation. Likewise, all FGD participants also consider PD programme on assessment and evaluation is necessary. Participants in FGD1 stated:

“*Our curriculum is revised yearly. We had a different one last year, and we have a different one this year. However, we did not receive any PD programme on that. We find it difficult to accurately follow new assessments and evaluations formats. They just offer us criteria*

Table 8. Assessment and Evaluation

Items	N	Mean	SD
I have adequate knowledge of assessment	104	4.05	1.35
I have required skills to assess students' performance	104	4.04	1.33
I need to be familiar with the development of different assessment strategies	104	4.29	1.39
I have enough knowledge on formative assessment	104	4.05	1.24
I have adequate knowledge on summative assessment	104	4.20	1.21
I have enough knowledge on providing feedback to students skills	104	4.08	1.26
Overall	104	4.12	1.30

without any clear guidance. Therefore, it is necessary to include the PD programmes in an assessment and evaluation to gain a deeper understanding”.

The FGD2 participants also mentioned that “recent changes to the assessment structure have been made. Our knowledge of how to conduct the assessment is insufficient. The creation of checklists and rubrics is challenging for us.” They further added that the CFA, which is currently used in schools, must be covered in the PD programme. “The focus should be on CFA in particular because most teachers do not have much idea on how to carry out CFA. In CFA, most of us end up doing summative assessment rather than focusing on progressive assessment” (FGD 2). Owing to the constant global and national educational reforms, the assessment and evaluation format has also changed, but according to the study’s participants, they were not provided with any such PD programmes. Continuous formative assessment (CFA) at key stages III and

IV were given a weighting increase from 20% to 60%, as per the (Department of Curriculum and Professional Development (DCPD), 2021). This can be assumed that teachers have been using their limited understanding of assessment techniques to evaluate student work. Kirkprick and Gyem (2012) found that most Bhutanese teachers are not sure or have limited knowledge about the new assessment system, making it difficult for them to carry out their assessment practices as intended. The authors further recommended that teachers should be given more professional development programmes on how to make the new system of assessment work effectively. Teacher orientation on students’ assessment and evaluation seems important so that it will enhance their ability to assess students’ performances effectively. Moreover, as stated by Kirkprick and Gyem (2012), providing teachers with more trainings and stimulus would encourage them to carry out the assessment process with greater commitment.

The overall mean for the theme PD programme

Table 9. Subject content

Items	N	Mean	SD
I have adequate knowledge of the content of the subject	104	4.42	1.29
I need to enhance my knowledge of Quantum GIS (QGIS)	104	4.70	1.37
I have adequate knowledge to engage students in project work	104	4.15	1.29
I have required skills to instruct students on plane table survey	104	3.89	1.33
I can engage students in fieldwork without any difficulty	104	3.89	1.25
I need to enhance my knowledge on the scale and maps	104	3.99	1.38
Overall	104	4.17	1.32

needs in subject content is ($N = 104$, $M = 4.17$, and $SD = 1.32$), which shows that there is a need for PD programmes in the subject content. Participants felt that subject-specific professional development programmes must be made available, especially for prospective teachers because they felt that there is a need to familiarize themselves with the content knowledge of the curriculum. For instance, FGD 1 and 2 asserted respectively;

“Bhutanese curriculum keeps on changing with time. When such changes are made, it is important that we are given training before we implement in real classroom. It is obvious that there will be a lot of changes in content areas, whenever there is change in curriculum. One can only gain a deeper understanding of the content through the PD programme. PD will familiarize us with new concepts and ideas of the subject” (FGD1).

“I believe that a lack of orientation causes geography teachers to lack confidence in their content knowledge. For instance, when NNC was implemented, everything was simply provided on paper without any orientation. Orientation is required whenever the curriculum is reviewed or changed”. (FGD2).

A similar conclusion was reached by Karlberg and Bezzina (2020), who found that the two most crucial areas for preparing beginning teachers in Singapore are pedagogy and subject matter. According to the same study’s findings, focusing professional development on the subject matter, pedagogy, and special needs education had a significant impact on teachers’ development. Similarly, Desimone et al. (2009) asserted that an effective PD programme has a strong content focus that involves active learning and collaboration for learners. Thus, providing effective content-focused professional development can enhance their effectiveness in teaching their subject so that it will have a positive impact on students’ learning (Nadelson et al., 2012; Desimone et al., 2009). Moreover, in context of the current study, participants felt the need for a PD programme in areas of subject content like Quantum Geographic Information System (QGIS), time and longitude calculation, fieldwork, and plane table survey.

However, the result of the study also indicated that the teachers had fewer opportunities to participate in PD programmes that offered opportunities to improve their subject knowledge and skills. Dhendup et al. (2021) found that the professional development programmes offered to school teachers in Bhutan are typically not related to their subject areas, but rather focus on improving the general knowledge of Bhutanese teachers. On the contrary, Bautista et al. (2015) reported that most of the PD Programmes in Singapore are subject-specific. The differences in the result could be attributed to differences in the development of each country’s educational system, as Singapore’s world-leading education system. Most of the PD programmes offered by MoE and other relevant agencies are non-academic focus such as school improvement plans, agriculture, clubs, games and sports.

Therefore, according to the findings of the study, it can be concluded that subject-specific PD needs to be increased while non-academic PD should be minimized.

The overall mean score for the theme PD needs in research is ($N = 104$, $M = 3.32$ and $SD = 1.36$), indicating that there is a need for PD programmes in the research area as the result shows that teachers lack sufficient knowledge and skills in research. Participants felt that in order to instill 21st-century skills in students, teachers must have adequate research knowledge and skills. As stated by Wong (2013), teachers need to engage in educational research to meet the demand for ongoing global educational reforms. Therefore, one approach to achieve this could be the provision of PD programmes for research. In this regard, Yemen and Yonten (2020) found that in Turkey, research is one of the most needed professional development areas for teachers.

On the other hand, the finding showed that most of the PD programmes teachers received on research were one-off workshops that last for a few hours or a few days, which may not promote effective research learning. As stated by Darling-Hammond and Richardson (2009), one-time workshops are ineffective in assisting teachers in acquiring research knowledge and

Table 10. Research

Items	N	Mean	SD
I have adequate knowledge of action research.	104	3.37	1.33
I have adequate knowledge of conventional research.	104	3.35	1.32
I can write a literature review without any difficulty.	104	3.28	1.43
I can select an appropriate theory for my research without any difficulty.	104	3.18	1.39
I am aware of different types of paradigms.	104	3.48	1.40
I have enough knowledge of research design.	104	3.18	1.34
I have adequate knowledge of different sampling strategies.	104	3.22	1.34
I am aware of different types of data collection strategies.	104	3.44	1.29
I can guide my students in doing research.	104	3.34	1.38
Overall	104	3.32	1.36

skills. Moreover, Wong (2013) pointed out that PD programmes demand significant time and effort from teachers. Accordingly, the conclusion recommends that the MoE and other pertinent stakeholders offer comprehensive and advanced professional development in research for efficient learning.

4.6. Interventions for Effective PD Programme

All FGD participants acknowledged that their personal and professional development is aided by the current PD programmes they received in three different modalities (NBIP, DBIP, and SBIP). However, they shared their concern that the PD programmes they received were particularly not helpful for teaching geography. They mentioned that PD programmes can be effective if they are given specifically to the subject rather than focusing on general topics. FGD1 stated, *“The PD programme must be specific to our subject rather than training entire teachers on the same general topic.”* Similarly, FGD2 stated that *“PD programs must be provided on a need-based and subject-relevant basis.”* FGD participants also suggested offering them professional development programs on specific geography topics”. The following excerpt from FGD2 illustrates this claim:

“I do not expect PD covering all geography content areas. However, it is necessary to have PD for some of the topics. Most of us are not so

confident in some of the geography content areas such as plane table survey, time and longitude calculation, QGIS, and fieldwork. We still do not feel competent enough to teach such topics”.

They also mentioned that other measures towards effective PD programmes is teachers’ careful implementation of the training after receiving it, followed by prompt monitoring by concerned stockholders. According to FGD2, *“There must be follow-up and monitoring by concerned stockholders after providing the PD programme.”*

The findings of the current study show that most of the PD programs they attended did not enhance their effectiveness in teaching their subject. The majority of the Ministry of Education’s professional development programs are non-academic and place little emphasis on classroom practices (Dhendrup, 2021). Moreover, teachers worldwide have received passive PD programs, given in one-off workshops, designed by the administration and imposed on teachers for their implementation (Tannehill et al., 2021). This implies that PD programme providers need to alter their conventional approach to delivering PD programs and find various ways to improve their effectiveness by placing a greater emphasis on PDs with an academic focus. As stated by Wong (2013, p. 14), the quality of a teacher education programme goes beyond the qualifications of its faculty.

The study findings also show that for professional development to be effective, teachers must put the knowledge they have learned into practice. This requires support and encouragement from school administrators as well as immediate and ongoing monitoring from the Ministry of Education and other relevant stakeholders. As stated by Atencio et al. (2012) and Parker et al. (2010), teachers must have a sense of responsibility and ownership to implement their learning to foster the learning community once they have attended the PD programme. Implementation of the knowledge and skills acquired through PD programmes is most often not given serious consideration by the majority of teachers. In addition, support, motivation, and monitoring are frequently not taken seriously by school administrators, policymakers, and other relevant agencies. In this regard, Wong (2013) asserts that school leaders and ministry policymakers should not only design policies and programs but also provide support and motivation to engage teachers in relevant continuous professional development with proper monitoring. This clearly indicates that the effectiveness of the PD programme will result from the collective efforts of all stakeholders involved.

Therefore, to enhance the effectiveness of the PD programme provided to teachers, there is a need to focus on need-based subject content rather than general PDs. For instance, the majority of PD programmes in Singapore are subject-specific and have shown a significant positive impact on teacher development. Moreover, to enhance the effectiveness of the PD provided to teachers, they need to implement their learning once they are back in school. School administrators must encourage and motivate the teachers to implement their PD as follow-up activities and should render necessary support during the implementation. Furthermore, monitoring agencies or stakeholders should monitor the effectiveness of PD in the process of teaching and learning.

5. Conclusions and recommendations

The current study explored the perceptions of geography teachers in secondary schools in the

western region regarding current professional development (PD) programme. The findings revealed that the majority of the teachers did not meet the 80 hours of PD programmes mandated by the THRC. It was found that teachers mostly attended PD programmes at the school level (SBIP) due to limited opportunities to attend NBIP and DBIP.

The study indicates that teachers perceive professional development programs as important and necessary to improve their knowledge and skills at every stage of their careers. Participants agreed that the majority of the PD programmes they received were useful for enhancing their professional and personal development. However, teachers also felt that not all PD programmes were beneficial for improving their knowledge and skills. This is because the majority of the PD programmes received from the MoE and other relevant agencies have been of a general and non-academic focus, such as clubs, school improvement, scouting, games, and sports. Moreover, it was found that PD programmes are often short and do not correspond to classroom practice in most cases.

Additionally, the study examined the PD programme needs of teachers in six areas: instructional technologies and designs, teaching strategies, classroom management, assessment and evaluation, subject content, and research. All participants agreed that there is a need for PD programs in four areas: instructional technologies and designs, assessment and evaluation, subject content, and research. Firstly, the integration of ICT in classroom teaching has become a necessity worldwide. However, the study revealed that teachers lack sufficient knowledge and skills in instructional technologies and design, indicating a need for PD. Secondly, the need for PD in assessment and evaluation was felt due to constant changes in these areas. Thirdly, participants felt that PD programmes on need-based subject content should be provided, especially for prospective teachers. Finally, participants felt that to instill 21st-century skills in their students, teachers must have adequate research knowledge and skills. However, it was found that the majority of the participants

lack adequate research knowledge and skills, indicating a need for a PD programme in this area. However, some participants felt that PD programmes in classroom management and teaching strategies are not needed unless they are new to teaching strategies. Moreover, PD programmes offered in classroom management were mostly theoretical or detached from real classroom practice.

Finally, the results of the study suggest interventions to enhance the effectiveness of the current PD programme. These interventions include a focus on PD programmes that are subject-specific and provide in-depth information. Additionally, teachers should implement information acquired from PD in the field, with support and motivation from school administrators, and proper planning prior to delivery, as well as follow-up monitoring after the provision of the PD programme by relevant agencies.

Therefore, the MoE needs to revisit the 80-hour PD requirement and come up with a realistic time frame in line with teachers' working

schedules. Moreover, as per the findings, the PD programmes were generally ineffective in fulfilling the needs of teachers. Therefore, the MoE and other relevant stakeholders, such as the DCPD, the dzongkhag education officer, and the school administrator, need to identify, plan, and provide PD programmes tailored to the needs of teachers. The MoE needs to prioritize and specify the PD hours required for different professional development areas, such as subject content, instructional technology and design, research, assessment and evaluation, teaching strategy, classroom management, and personal development.

Additionally, this study explored the perceptions of geography teachers in the western region, and these findings cannot be generalized to the entire population. Therefore, there is scope for future researchers to explore geography teachers' perceptions of PD needs across all four regions. Future researchers may also examine the perspectives of both teachers and students regarding their needs for professional development.

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