

Perception of Teachers and Principals on Professional Development Needs, Types, Impacts, and challenges: A case study under Trashigang Dzongkhag

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ABSTRACT

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This research was to study the perception of teachers and Principals on professional development needs, types, impacts, and challenges faced by surveying the views of them under Trashigang Dzongkhag. The objectives were to study the perception of teachers and principals on most needed PD programs, that have produced highest impact on teachers' knowledge of teaching, and challenges faced in professional development programs. Researcher used structured interview and PD document analysis to apply qualitative research techniques. The study used a case study design and random sampling. Crest well's six steps of thematic analysis of the data were followed by applying colour coding of the interviews and documents. Questionnaires were distributed to teachers and principals through the mail.

Findings indicated that the most needed professional development programs for teachers were ICT, 21st century teaching pedagogies, subject's content, action research, effective communication, curriculum instruction, and place-based education. It indicates that attending professional development has impacted teaching skills, professional growth, subject delivery, and producing competent learners. It revealed that they had faced the most challenges in attending professional development programs due to time constraints, limited resources, lack of opportunities, qualified facilitators, and nomination of right participants for the program. Limited financial resources and workload hampers teachers participating in professional development program.

It is recommended that the Ministry of Education, Dzongkhag Education office, and schools to ensure that PD programs must be strictly scheduled on suitable days to focus more on Content and pedagogical development PD for teachers.

Keywords: Challenges, Impact, Professional Development, Subject Content, Teachers'

Needs.

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Abbreviations

CBIP	:	Cluster based In-service Program
DBIP	:	Dzongkhag based in-service Program
EPCI	:	Education Policy Guidelines & Instructions
ICT	:	Information and Communication Technology
INSET	:	In-service Education of Teachers
MoE	:	Ministry of Education
NBIP	:	National based in-service Program
PD	:	Professional Development
SBIP	:	School based in-service Program
THRP	:	Teacher Human Resource Policy
TRCBIP	:	Teacher Resource Centre Base Inservice Program
TALIS	:	Teaching and Learning International Survey
PDP	:	Professional Development Program
HoD	:	Head of Department
OECD	:	Organization for Economy Cooperation and Development
BPST	:	Bhutan Professional Standard for Teachers
B. Ed	:	Bachelor of Education
PGDE	:	Post Graduation Diploma in Education
M.Ed.	:	Master in Education
MA	:	Master of Arts
PBE	:	Place Based Education
PR	:	Principal
TR	:	Teacher

1 INTRODUCTION

1.1 Introduction

Recognizing that the quality of education depends on the quality of teachers. The MoE developed the [INSET] Master Plan to create a systematic approach to providing continuous professional development to the in-service teachers of Bhutan. As a result, the Teacher Human Resource Policy [1]([THRP, 2014](#)) and the Master Plan for In-service Education of Teachers [INSET] mandate that every teacher receive a minimum of 80 hours of need-based PD program per year organized at the school-based Inservice program [SBIP], cluster [CBIP], Dzongkhag based Inservice program [DBIP], Teacher Resource Centre based Inservice program/Cluster based Inservice program [TRCBIP/CBIP], national based Inservice program[NBIP], and international levels. Also, [School Performance Management System \[2\]\(n.d.\)](#) saysevery teacher must have at least 80 hours of theprofessional development program. Professional development for teachers in Bhutan is well delivered through different programs that develop an individual’s skills, knowledge, expertise, and other characteristics as a teacher. The [Bhutan Professional Standard for Teachers \[3\]\(2014\)](#) and the Ministry of Education have also closely worked on different programs and guided the schools in the nation in implementing professional development programs for teachers at various levels. Teachers get professional development at different levels to learn, grow and update their careers. The mandatory sessions and workshops are what spread information and inspire teachers in the field.

There is increasing awareness that teachers must be carefully recruited and professionally developed throughout their careers to be effective [\[4, 5\]\(Billingsley, 2004;Burns & Lawrie, 2015\)](#). Similarly, developing an effective means of supporting and retaining teachers is crucial to creating a quality learning environment for students and a supportive work environment for teachers [\[6, 7\]\(Evers, Van der Heijden, & Kreijns, 2016;Polly et al., 2015\)](#). Further, professional development is necessary to fill in the gaps in the skill sets of new teachers and to continue to develop the expertise of teachers [\[8\]\(Evers et al., 2016\)](#). Professional development is necessary for all teachers to keep abreast and updated with the current changing practices of the system to meet the needs of the students. According to Guskey and Yoon [\[9\]\(2009\)](#) student’s success depends on the teacher’s activeness with well-planned professional development activities. To improve teaching in the classroom does not

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appear to be modifying the subject professional development. It must be collaborative, long-term, and content-driven. Research also stresses that to be successful; teachers need professional development which is sustained, intensive effort to improve teaching and learning (Richardson, 2003). Researchers have found design elements of professional development programs that are thought to help teachers learn the most. These include a strong focus on content, inquiry-based learning approaches, collaborative participation, and coherence with school curricula and policies (Garet et al., 2008; Santagata, Kersting, Givvin, & Stigler, 2011). Moreover, the Bhutan Education Blueprint (2014) recommends the establishment of a Professional Division in line with the THRP and INSET Master Plan (2014), to conduct relevant and continuous professional development programs, allocate a separate budget for professional programs. Therefore, Saturdays were dedicated professional development programs for teachers and other school activities.

Thus, the study will cover professional development needs and perceived impacts. The teachers are also allowed to identify the problems that prevent them from attaining their desired professional development.

1.1.1.2 Background of the Study

The amount of centrally initiated professional development for teachers has grown significantly over the previous ten to fifteen years, according to Maxwell and Laird (n.d.). According to the official policy, teachers who participate in NBIPs [Nationally-Based In-service Programs] should bring ideas and experiences shared by other colleagues [at NBIPs] and then go back to their schools and share with their colleagues through SBIPs [School-Based In-service Programs]. Although this technique is reasonably inexpensive, its usefulness is still in doubt. Furthermore, the in-service strategy, in which central curriculum efforts predominate the NBIPs' content, is congruent with Bhutan's overall administrative style of managing education. The King's support for decentralization of government is likely to have a growing effect on education as district and regional staff gain knowledge and influence in the local communities.

Professional development [PD] is essential for teachers to attain sustainable education. According to Mohammadi and Moradi (2017), exploring teachers' perceptions could be a significant endeavour as teachers' beliefs impact their classroom practices, impacting student learning and, thus, having educational implications. Therefore, this study will investigate the fundamental issue of professional development and workshops that train teachers to promote

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sustainable professional growth. The study will examine teachers' beliefs and attitudes toward professional development programs.

Teachers' beliefs about good teaching are reflected in their everyday teaching practice and affect their decision-making in the classroom. The new curricula would never be implemented if teachers did not support them. According to Akbari and Tajik (2012) and Gao and Ma (2011), it is crucial to find out if teachers are mentally ready to make the changes needed to meet the educational goals of modern society.

The findings of this study will demonstrate that beliefs about PD can change. The professional development workshops will significantly shift teachers' and principals' beliefs. It will guide the higher authorities to plan an effective PDP for the teachers in the field. In addition, the results will reveal that the participants recognize and customize professional development programs with its framework as a beneficial tool to be included in the professional development programs. The study will have some pedagogical implications that can be used in education to help people keep getting better professional programs.

1.32 Primary ~~question~~Question

What are the teachers' and Principals' perceptions of professional development need types, impacts, and challenges?

1.43 Sub-research ~~questions~~Questions

1. What are the teachers' and principals' perceptions of the most needed professional development program?
2. What forms of professional programs have produced the highest impact on teachers' Knowledge of teaching?
3. How are the teachers' perceived challenges to their participation in professional Development?

1.54 Significance of the ~~study~~Study

The primary significance of this research is to ascertain the perception of teachers and principals on professional development. Firstly, it aims to find the most needed professional development program and the types of PD offered and required in the future. Secondly, to determine the impact on the teachers' knowledge of teaching gained from the professional development program offered. Thirdly, determine the teachers' challenges participating in the professional development program.

Further the findings of this study will demonstrate that beliefs about PD can change. The professional development workshops will significantly shift teachers' and principals' beliefs. It will guide the higher authorities to plan an effective PDP for the teachers in the field. In addition, the results will reveal that the participants recognize and customize professional development programs with its framework as a beneficial tool to be included in the professional development programs. The study will have some pedagogical implications that can be used in education to help people keep getting better professional programs. Accordingly, the researcher will recommend improving the professional development program under Trashigang Dzongkhag.

1.61.5 Objectives of the ~~S~~study

- To study the teachers' and Principals' perceptions of professional development need types, impacts, and challenges.
- To study the forms of professional programs that have produced the highest impact on teachers' knowledge of teaching.
- To provide relevant recommendations to stakeholders for further improvement of the professional development program.

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2. LITERATURE REVIEW

2.1 Introduction

Teacher professional development is considered as an important vehicle to improve teacher competencies, particularly given the changing dynamics and development in education (Dhendup, Jatsho&Tshering, 2021). Additionally, the research has found that Teacher Professional Development (PD) has gathered sufficient momentum as a significant predictor of quality of learning Professional development should provide an essential tactic for improving schools, increasing teacher quality, and improving student learning (Girvan et al., 2016; Witte & Jansen, 2016). Similarly, the National Staff Development Council (2001) stresses that professional development is rapidly viewed as high-quality ongoing training programs with intensive follow-up and on-the-job support. In addition, According to a 2013 Bhutanese study on teachers' job satisfaction, 86% of teachers viewed ongoing professional development as being of utmost importance. In the same study, it was found that 13% of teachers had never participated in a school-based in-service program, while 30% of instructors had never participated in a national-based in-service program (NBIP) (SBIP). Furthermore, Hill, Beisiegel, and Ja (2013) provided evidence-based results to show that professional development is significantly linked to student achievement. These findings and similar reported evidence point to the impact of developing teachers' competencies (Meissel, Parr, & Timperley, 2016). Moreover, quality professional development can lead to critical qualitative outcomes such as creating positive school culture, improving in individual teacher skills, and the developing of opportunities for peer learning (Willemse, Dam, Geijsel, van Wessum, & Volman, 2015). To update the knowledge and skills, teachers who attended national level in-service [NBIP] and Dzongkhag based in-service programs [DBIP] shared their new ideas with the teachers. Also conducting the School Based In-service Program [SBIP] despite the limited resources, time allocation, content and delivery.

2.2 ~~Need of professional Development programme~~ ~~Professional development Development programme~~

Professional development programs for teachers are needed to enhance the quality of teaching and learning to promote a standard of education in Bhutan. Further, to strengthen the quality

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delivery of teaching and learning to the students. 95% of Bhutanese teachers who participated in a national study in 2013 said that professional development was the most significant element influencing teacher quality (Ministry of Education, 2014). Moreover, Evers et al. [\(2016\)](#) stated that activities dealing with teaching strategy support, information on where to search for needed resources, classroom management, and parental involvement. In addition, Daresh (2003), also stated that beginner teachers need to plan classes, manage student behaviour, and work within district rules. Therefore, the concerned organizations and institutes should have concerns about the professional development of teachers to raise the quality of teaching and learning. NSDC (2007) created a set of nine standards that all professional development should follow. They are content knowledge, good teaching, research-based learning, collaboration, different learning needs, student learning environments, family involvement, evaluation, data-driven design, and teacher learning. Similarly, professional development in Bhutanese schools is also given the priority of different standards to be implemented in schools as per the needs of the teachers to benefit students. Teachers need to be empowered to further develop expertise in subject matter content, technologies, and other essential elements that lead to high standards of quality teaching (Korkko, Kyrö-Ammala, & Turunen, 2016; Witte & Jansen, 2016). These would lead the teachers to be more strategic and practical models while delivering the lessons in actual classroom teaching. Teachers learn best through professional development that addresses their needs (Meissel et al., 2016). Therefore, professional development needs many different programs with activities that focus on students with special needs and managing the classroom. Similarly, other activities involve designing curriculum and unit planning (Garet et al., 2001; Pehmer, Groschner, & Seidel, 2015). The Education Blue Print (2014-2024) stated that school leaders need adequate training before the appointment and continued professional support throughout their service, particularly on the vital dimension of instructional leadership styles and skills. Principals also need intensive induction and continuous professional development programs to make them influential leaders in the school to fulfill the mandates of the Ministry of Education for every teacher to receive a minimum of 80 hours of professional development in a year.

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According to the OECD report *Teachers Matter: Attracting, Developing, and Retaining Effective Teachers* (2005) stated that research determines effective professional development. It indicates that teachers need to be active agents in analysing their practice in light of professional standards and their student progress. Professional development programmes

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must develop intellectual autonomy, capacity, and a deeper understanding of the content they are expected to teach and are geared towards teaching for understanding. Professional development for teachers should be continuous and dynamic, with new ideas, thoughts, and developments in education, raising their prestige. Teachers are the cornerstone of the education system. Must constantly update and upgrade new knowledge, teaching strategies, and techniques through refresher and advanced courses for effective classroom delivery. Furthermore, McKinsey (2007) has reported that the quality of education cannot exceed the quality of teachers. In addition, Hargreaves and Fink (2003) stated, "Sustainable improvement requires investment in building long-term capacity for improvement, such as the development of teachers' skills, which will stay with them forever, after the project money has gone" (p. 3). Systematically, the term sustainability in professional development for teachers refers to the capacity to achieve durability in effective teaching practice. The primary consideration of sustainability comes from achieving shifts in knowledge, skills, and attitudes that contribute to lasting change in quality teaching and learning practices. Simultaneously, professional development for teachers ensures access and equity in professional development for all teaching professionals.

2.3.2 Types of Professional Development Programs

There are varieties of professional development programs that cater to the needs of the teachers in the field according to the TALIS (2013), included in its survey nine different choices: courses/workshops, education conferences or seminars, qualification programs, observation visits to other schools, and participation in characteristics. As mentioned, Bhutan's professional development programs focus primarily on subject content through national-based in-service programs, Dzongkhag-based in-service programs, and school-based in-service programs. Concerning the duration of professional development activities, on average, there was no statistically significant difference between male and female teachers across participating countries. On average, teachers are now compelled to attend the in-service professional development program for different levels as per the standard developed by the Bhutan Professional Standard for Teachers [BPST] by the Ministry of Education.

A study by Amanulla and Aruna (2014) revealed significant differences between male and female teachers, government and private school teachers, and more experienced and less-experienced teachers in the mean scores of items related to professional development. In contrast, Alade and Odebo (2014) showed that age, gender, educational qualification, and

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years of teaching experience had no significant influence on the benefits derived by teachers from the Professional Development Program. Further, Sagir (2014) showed mixed results regarding the difference between male and female teachers regarding particular professional development needs. In this situation, no significant differences were observed in teacher views regarding their professional development needs in most of the categories. The study also reveals that teachers need professional development at all levels to promote teaching and learning for the benefit of the younger generation.

Garet et al. (2001) assert that longer professional development activities are more likely to provide opportunities for in-depth discussion of the content, pedagogy, and student conceptions and misconceptions. The authors also suggest that activities that extend over time are more likely to allow teachers more time to try new practices in the classroom and obtain feedback on their teaching (Girvan et al., 2016; Sedova, Sedlacek, & Svaricek, 2016). The professional development program provides teachers with new skills and pedagogies for effective curriculum implementation. It reinforces their ability to work collaboratively and collectively to achieve educational goals and move the country forward. The programs are designed for shorter or longer duration as per need, with more subject-area content focus and more opportunities for effective learning based on effective professional programs.

2.4.3 The Impact Of Professional Development Program

The professional development program significantly impacts teachers and students for teaching and learning purposes. Moreover, Poskitt (2005) stressed that participation in professional development impact the teachers' ability to acquire and develop knowledge and skills. Additionally, Gabriel, Day, and Allington (2011) also noted the importance of emotional intelligence skills to good thinking, planning, and dealing with students and colleagues. Similarly, Desimone (2009) notes the importance of the positive impact of professional development on the teachers' ability to decide on and implement valued changes in teaching. In this way, a professional development program boosts the confidence and credibility of the teachers in the organization. It also expands the knowledge base and provides networking opportunities. Furthermore, it keeps professionals focused on their skills and open to future career opportunities.

According to Powell, Terrell, Furey, and Scott-Evans (2003) professional development has both immediate and long-term impacts. It states that the teachers get better knowledge and a

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skill, which helps them evaluate their practice's effectiveness. Likewise, Harris, Cale, and Musson (2011) reported that professional development helped teachers to experience an immediate positive impact on their perceptions of physical education. Further, participation in professional development programs is believed to have some impact on the teachers' ability to acquire and critically develop the knowledge, skills, and emotional intelligence essential for good professional thinking, planning, and practice with their students and colleagues through every phase of their teaching profession (Gabriel, Day, & Allington, 2011). Some studies noted that the long-term impact of professional development has to do with developing greater confidence in their practice (Buczynski & Hansen, 2010; Harris et al., 2011; Harris & Sass, 2011). Therefore, Bolam (2002) stresses the impact of professional development on leadership behaviour so that teachers can educate their students more effectively, thus achieving a desirable balance between individual, school, and national needs.

2.5.4 Challenges for Participating in Professional Development Program

Teachers face many challenges in their participation in professional development programs. They face challenges regarding human motivation and communication. Perhaps they are faced with an indifferent attitude towards education and professional training.

The availability of collaboration, time, long-term commitment, and resources is essential for the successful implementation of professional development (Maria & García, 2016). Many believe that the intensity of participation in professional development programs partially results from the backing teachers get to participate in them or the type of barriers they encounter (Avalos, 2011; Jurasaitė-Harbison & Rex, 2010). The allocation of resources for teachers for professional development is found challenging by the organization, though teachers find time to participate in the program. On the other hand, Drage (2010) recommended that restructuring the teacher's work to create "mental space" was highly required to meet the challenges they face. Most of the challenges they face to their fulfillment include time, accessibility, staff motivation, marketing, advertising, and financial issues (Geldenhuys & Oosthuizen, 2015).

Therefore, age, staff shortages, unsupportive managers, staff attitude, availability of programs, work pressure, family commitments, unsafe environments, and participation on their own time are also identified as challenges (Fernandez-Manzanal et al., 2015).

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3. METHODOLOGY

3.1 Introduction

The study would explore the perceptions of teachers and principals on professional development needs, types, impacts, and challenges under Trashigang Dzongkhag. The methods and techniques in this study would employ research design, population and sampling, research instruments, and data analysis.

3.2 ~~1~~ Research ~~d~~ Design and ~~approach~~ Approach

There were five designs in the qualitative approach. The researcher has used case study design as it was the best way to take an interpretive stance in this research and was best fit for the nature of the research question. The qualitative research approach was used as it helps to unravel the feelings of people's experiences and perceptions through understanding the world from subjective points of view (Creswell et al., 2018). So, the qualitative research method allows researchers to change how they collect and analyse data. Thus, the researchers have adopted qualitative approach for the study.

Thus, the researcher used a case study as a strategy of inquiry in this study to explore a phenomenon that has within the context using a variety of data sources. It ensures that the researcher looks at the topic through various lenses, allowing them to find and understand many different sides.

The questionnaires were distributed to the teachers and principals under the Trashigang dzongkhag through google docx. Qualitative data was collected through a structured interview with principals and teachers from all levels of schools.

3.3 ~~2~~ Population and ~~sample~~ Sample

The study used non-probability purposive sampling. The target population for this study was teachers and principals from primary, middle, and higher secondary schools under Trashigang Dzongkhag. The researchers have chosen 40 teachers (20 male and 20 female) and 40 principals, irrespective of gender. The researcher employed structured interviews with teachers and principals. Each structured interview survey lasted about 30 to 40 minutes.

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3.4.3 Data analysis Analysis

Data analysis is the systematic application of statistical and logical approaches to explain and illustrate, summarize, and evaluate data (Creswell, 2008). Similarly, there are several methods used for data analysis in qualitative research. However, there are some commonly used methods, as mentioned in Creswell and Creswell (2018), that qualitative researchers typically work inductively, building patterns, categories, and themes. It benefited researchers' work by allowing them to switch back and forth between topics and databases until they had built a comprehensive set of themes. When the data provided were words and descriptions, it is a qualitative data analysis. Inductive qualitative data analysis was the best way to look at this data type (Creswell, 2018). Further, Butina (2015) stated that inductive analysis is one form of qualitative data analysis. Therefore, the colour coding was employed for different responses but the same for similar ones. Thus, the thematic analysis method was applied to analyse the data. Furthermore, thematic analysis is a method of analysing inductive qualitative data. In addition, thematic analysis is a good approach for researchers to try to find out something about people's views, opinions, knowledge, and experiences from qualitative data such as interviews, transcripts, social media, profiles, and survey responses. The thematic analysis is a flexible method that can be adapted to many different kinds of research. Therefore, researchers have applied thematic data analysis. The data were analysed using six steps of Crest well's thematic analysis, categorizing them into different themes.

4. RESULTS

4.1 Introduction

This chapter presents the results and discussion of the research topic: Perception of Teachers' and Principals' Professional Development Needs, Types, Impacts, and Challenges: The case study under Trashigang Dzongkhag. The qualitative data analysis was done based on the thematic results obtained from the structured interview and PD documents of different schools. This section starts with a profile of the teachers and principals' demographics and then moves on to an analysis of the qualitative data.

4.2.1 Demographic Profile

The study collected case study qualitative data from 40 teachers and 40 principals from Trashigang Dzongkhag. In the case study, there were 20 male and 20 female teachers with varying experiences in the teaching profession. In addition, this study also collected qualitative data from 40 principals and vice principals, who were all male since there was not a single female principal in the Dzongkhag.

Furthermore, the qualifications of the participants were considered necessary in the study. The participants were from B.Ed, PgDE/PgCE, and M.Ed/MA

Table 14. Demographic representational of the case study participants

Gender	Number of Participants	Percentage
Male	60	75
Female	20	25
Total	80	100

Qualification	Number of Participants	Percentage
B.Ed	35	44
PGCE/PGDE	25	31
M.A/M.Ed	20	25
Total	80	100

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Teaching Experiences		
Below 5 years	15	18.75
6 to 10	20	25
11 to 15	15	18.75
16 to 20	10	12.5
21 and above	20	25
Total	80	100

4.32 Teachers And Principals Perception On The Most Needed Professional Development Program

4.32.1 Introduction

The study presents the themes of the seven most needed professional development programs expressed by the teachers and principals under Trashigang Dzongkhag. Each finding on the theme is narrated as per the data collected. The seven themes have their result obtained from the structured interview and analysed to recommend further improvement of the PD program for the teachers in the future.

4.32.2 Professional development on ICT

There are similarities between teachers' and principals' percept of the need for professional development [PD] programs. The majority of the teachers like to have PD programs to enhance their teaching skills by incorporating ICT (Tr 1; Tr 4; Tr 5;Tr 6; Tr 8; Tr 9; Tr 12; Tr 13; Tr 14; Tr 15; Tr 19; Tr 20; Tr 21; Tr 23; Tr 27; 28; 29; 31; 33; 34; 36; 37; 38; 39). On the other hand, few teachers expressed that all the teachers across the country undergo thorough PD on the use of ICT as it is necessary and cannot compete with the rest of the world. Other than that, it is a must to have a refresher course on teaching strategies, skills, and assessment (Tr-1, Tr-9, Tr-13, Tr-18, Tr-23). Most of the school Principals pointed out that ICT is an essential required skills by all the professionals in the field of teaching to interact with students and across the globe.

All most all the participating schools have expressed that the application of ICT in teaching and learning is enhanced through the PD program timely to fulfill the needs of teaching and learning. The use of online ICT interactive tools and maintaining the records using ICT is encouraged and further strengthens the PD programs in future ICT.

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4.32.3 Professional development-development on 21st-century teaching-teaching

pedagogiespedagogies

Most teachers shared that PD on 21st-century teaching pedagogies was crucial for them. Similarly, most principals shared that teachers must be well-equipped with 21st -century teaching pedagogies.

In addition, the PD documents of schools (B, C, F, G, H, I, J, L, and P) have recorded that the PD on 21st-century teaching pedagogies are taken care of and share the ideas depending on the situation whenever required by the teacher for the welfare of the students. The finding shows thatthese schools consider that the teaching pedagogies of the 21st Century are highly needed to prepare the teachers professionally sound to produce competent students globally fit to overcome the challenges ahead. However, it is found that most of the PD documented records do not show the significant PD that was provided to the teachers on the pedagogies of 21st century teaching.

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4.32.4 Professional development Ogn content OFof The (the subject

Few principals and teachers shared that they need PD on the content of subjects. Further, Pr-20 stated that professional development on teaching content must be focused. Likewise, Pr-21 focused on frequent orientation and seminars on contents are required for the teachers.

PD programs are necessary for our teachers in the field to ensure that teachers possess therequired knowledge and skills. Most teachers have a common understanding of the PD program required and its purposes. PD program helps to enhance proper teaching for thewholesome development of individual students, learn new things and enhance skills, uplift teachers' professional knowledge, better classroom delivery and dealing of children's behaviour; update the professional standard of teaching and enhance the learning and bring a positive mindset in learning as well as in mentor. Furthermore, PD promotes continuous learning in teaching; upscales the required skills and pedagogy; team building, and unity and content up-gradation (Tr-30).

Similarly, most principals have the same notion of conducting PD programs in schools. PD programs enhance knowledge and the holistic development of individuals and to discuss and share individual strengths; capacity building of the teachers. Upscaling the content and pedagogical skills of the teachers, enhancing their competency and making a lifelong impact in the lives of the learners were common understandings of the purpose of the PD program.

Contrary, a few schools (C, D, E, G, H and J) stated that the PD on the content of the subject is continuously provided to promote quality teaching and learning. The schools aim to

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conduct the PD on the subject's content annually and make it more effective for the learners. Therefore, the result shows that not all schools that took part have emphasized on providing PD to improve the content of the subjects beyond just knowing the facts.

4.32.5 Professional development on action research

The majority of the teachers shared that PD on action research is required. Action research and research-based teaching-learning were common, aligning with the teachers' perceptions. The school Principals also shared that the action research PD is required to find out the reality of the school's teaching and learning and strengthen the school's quality of Education.

According to PD document of schools (C, D, E, G, H & J) has recorded that PD on action research is provided at the very beginning of the academic year. To perform the research by the teachers for the quality delivery of the teaching and needs to train the incoming teachers annually forming the research team. The mentioned schools in the alphabets revealed that PD on action research is the most needed for every teaching professional. However, a few participating schools (A, B, F, and I) have not given PD on action research.

The finding reveals that some schools in the district should provide PD on research to help the teachers adjust to the demand and changing time by mushrooming together with the rest of the teacher colleagues.

4.32.6 Professional development on effective communication

The classroom is the best teaching place where most students interact and communicate daily with the teachers. Most participants revealed that the PD on the effective communication is the most important skill teachers must undergo to enhance their teaching skills and emotional intelligence and upscale the teaching pedagogy and children's learning. It stated that effective communication is must for teachers to have the capability to proliferate persisting learning of teaching skills and ensure access and equity of professional development for all teaching professionals.

Similarly, the majority of the school Principals also rightly pointed out that the effective communication is the most fundamental skill required for classroom teaching and learning to enhance the instruction delivery. On the contrary, only four schools (D, F, G and H) have recorded that School-Based In-service program are PD on effective communication for the teachers to develop language skills and benefit the students. These schools recommend that the effective communication PD be strengthened and continue to benefit both teachers and

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students. Even though the teachers and principals at most of the participating schools know how important and needed PD on effective communication is, most of them have not done it. Therefore, the findings disclose that required PD for the teachers was not given, and it shows the truth of how it mismatches in reality.

4.32.7 Long term professional development On curriculum instruction

The long-term PD on curriculum instruction has been seen as the most important factor by the teachers across the schools under Trashigang Dzongkhag to gear the learners for quality education. Moreover, develop skills and get more knowledge and time for practice based on the context of the situation. Most teacher respondents (Tr 1; Tr 2; Tr 4; Tr 5; Tr 7, Tr 8, Tr 9, Tr 10, Tr 12, Tr 13, Tr 14, Tr 15, Tr 17, Tr 18, Tr 19, Tr 20, Tr 22, Tr 24, Tr 25, Tr 26, Tr 27, Tr 28, Tr 29, Tr 30, Tr 31, Tr 32, Tr 33, Tr 34, Tr 35, Tr 36, Tr 37, Tr 38, Tr 39, Tr 40) revealed that long term PD on pedagogical methods benefit both teachers and students to gain knowledge and skills required in their day to day life. Furthermore, long-term PD, such as planning, seminars, workshops, or training programs is to be focused more since it is valuable for teachers who last for longer and need not update within a short time. It is an opportunity to learn in-depth about the subjects which can upscale the students' learning. Few teacher respondents (Tr 3, Tr 6, Tr 11, Tr 16, Tr 21, Tr 23) also shared that long-term PD on curriculum instructions will have lasting impacts on teachers' evolutionary knowledge and acceptance.

Similarly, the Principal respondents (Pr 1, Pr 2, Pr 3, Pr 5, Pr 6, Pr 7, Pr 8, Pr 9, Pr 11, Pr 13, Pr 14, Pr 15, Pr 16, Pr 17, Pr 19, Pr 20, Pr 21, Pr 22, Pr 23, Pr 24, Pr 25, Pr 26, Pr 27, Pr 28, Pr 29, Pr 30, Pr 31, Pr 32, Pr 33, Pr 35, Pr 36, Pr 37, Pr 38, Pr 39, Pr 40) also shared that the PD on curriculum instruction should be focussed in this era since teacher gets hands-on experience to unlearn, learn and relearn of the subject content as the world is becoming increasingly competitive and constantly changing. Therefore, Professional Development [PD] in long term is valuable for teachers since it can make learners' life ever green. On the other hand, the principal respondents (Pr 4, Pr 10, Pr 12, Pr 18, Pr 34) mentioned that the long-term PD must be given more importance to infuse technological skills in teaching and learning. The teachers will have more time to encounter topics unfamiliar to them concerning the changes in the curriculum instructions.

The school B,C,D,E,F, G, I, K, L, P,S,U and rest of the school has shared that the PD on curriculum instruction is conducted annually and even when the situation demands. They

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responded that the PD on curriculum instruction should be conducted and update the teachers timely for the quality delivery of teaching to benefit the future citizens.

The finding shows that none of the participating schools' PD documents shared the record of long-term PD programs provided to the teachers. Therefore, the concerned authorities must motivate the teachers to pursue long-term studies to enrich the content and pedagogies to fit in 21st-century world.

4.3.2.8 Long term professional development On on place-based education (PBE)

Most teachers responded that long-term PD on Place-Based Education is required for every teacher in the field to connect their learning to increase student engagement, academic outcomes, and community impact. It will be the most valuable for them to help learners gear and connect to the local places' culture, ecology, and economy. The PBE is relevant in the Education system and professional development program to be focussed since learning occurs both inside and outside the classroom.

Moreover, out of 40 School Principals from different Schools under Trashigang Dzongkhag, 38 principals responded that long-term PD on PBE is highly relevant for the teachers to benefit the learners in many ways. They also shared that teachers have opportunities to develop and collaborate with a network of teachers from different schools by exchanging ideas and expertise provided the professional development program for a longer duration. Few principals' respondents shared that those students performed better during the placed-based learning activities, which helps for better classroom management.

On the contrary, only two of eight schools (C and F) PD documents have mentioned that PD, such as a school-based in-service program [SBIP] on PBE, is conducted and implemented to benefit students. They stated that PD programs on PBE are to be conducted annually and promoted from local to the global context.

The finding reveals that most schools have not conducted PD on PBE, though all the principals and teachers have attended training on PBE. Despite conducting PD on 21st-century teaching pedagogy, most of the schools' PD records show that teachers are given PDs unrelated to teaching pedagogy, as shown in Appendix A.

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4.43 Impact Of Professional Development Programs

4.43.1 Enhanced teaching skills

The teacher respondents (Tr 1, Tr2, Tr 3, Tr 4, Tr 5, Tr 6, Tr 7, Tr 8, Tr 9, Tr 10, Tr 12, Tr 14, Tr 15, Tr 18, Tr 19, Tr 21, Tr 22, Tr 23, Tr 24, Tr 26, Tr 27, Tr 31, Tr 33, Tr 35, Tr 36, Tr 38, Tr 39, Tr 40) has stated that the professional development program enhanced their teaching skills in line with the changes of curriculum, to deliver quality teaching and learning. Apart from this, teachers could learn new things, enhance skills in their respective specialization of the subject they taught, and adapt to changing situations with time. It has upgraded them with the required pedagogies, knowledge, skills, and capability to proliferate persisting learning of teaching strategies to facilitate individual improvement to increase students' achievement. On the other hand, the teacher respondents shared that it has enhanced their potentiality to accelerate better delivery of lessons in their day-to-day teaching and learning (Tr 11, Tr 13, Tr 16, Tr 17, Tr 20, Tr 25, Tr 28, Tr 29, Tr 30, Tr32, Tr 34, Tr 37).

The majority of the School principals' respondents (Pr2, Pr3, Pr4, Pr5, Pr 6, Pr 7, Pr8, Pr 9, Pr 10, Pr12, Pr 13, Pr 15, Pr 16, Pr 18, Pr 19, Pr 20, Pr 21, Pr 22, Pr 23, Pr 25, Pr 26, Pr 27, Pr 29, Pr 30, Pr 31, Pr 32, Pr 33, Pr 34, Pr 35, Pr 36, Pr 37, Pr 38, Pr 40) has stated that professional development program has enhanced the teaching skills of the teachers in terms of holistic development of the individuals and provided opportunities to learn and apply new knowledge and skills which helped them in their career and even enhanced the teachers' competency in subject delivery. Similarly, the other principal respondents also revealed that the professional development program had impacted teachers with the curriculum changes and enhanced their full potential in teaching. They impacted the children's lives (Pr 1, Pr11, Pr 14, Pr 17, Pr 24, Pr 28, Pr 39). It shows that teachers and principals strongly believe that PD programs improve teachers' ability to teach when given frequent PD teaching methods.

Moreover, it is observed in the PD documents record that most schools have provided varieties of PD on enhancing teaching skills and pedagogies (Schools C, D, E, F, G, and H). However, it is observed that few participating schools do not focus on providing PD to enhance teaching skills related to 21st century pedagogy.

Therefore, the finding shows that all schools must concentrate and plan for the maximum number of PD related to professional growth enhancing 21st-century teaching pedagogies. The findings also show that all the schools have conducted more PD programs unrelated to professional growth and enhancing teaching skills. Thus, school managers, academic heads,

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and heads of departments must plan relevant PD for teachers to enhance their teaching skills and professional growth.

4.4.3.2 Professional growth of teacher

Most teachers stated that the professional development [PD] program has boosted their confidence and uplifted the professional growth of individual teachers. Through continuous PD programs, they have gained new skills and work experience that can help them reach their career goals. Simultaneously, the PD program has developed communication skills in giving and receiving feedback and setting goals. Moreover, it has helped them grow professionally, bringing a positive mindset to the learners and mentors. According to (Tr 9, Tr 28 and Tr 10) the PD provided to them has promoted continuous learning and teaching for the wholesome development of students and updated the content knowledge to improve the quality of students' outcomes.

In addition, most School Principal respondents have shared that the similar benefits from the professional development program have impacted a lot in terms of the teachers' capacity building and upscaling the teachers in pedagogical skills and contents of the subject. Moreover, a few Principals (Pr 6, Pr 20, Pr 23, Pr 35, Pr 38) have revealed that the PD program has enhanced their teaching skills, helped them prepare students' capabilities, and nurtured them to help each other share ideas in their profession.

According to PD records, most participating schools have attempted to provide more PD programs related to professional growth (Schools C, E, F, G, and H). However, there are a few schools where relevant PD programs are not aligned with professional growth. Therefore, the result shows that concerned school stakeholders must plan ample professional growth PD to enhance individual subject delivery.

4.4.3.3 Enhanced subject delivery

There are certain similarities in the perception of teachers and principals on a professional development program regarding subject delivery. The Most teacher respondents (Tr 1, Tr 2, Tr 4, Tr 5, Tr 7, Tr 8, Tr 9, Tr 10, Tr 12, Tr 13, Tr 14, Tr 15, Tr 17, Tr 18, Tr 19, Tr 20, Tr 22, Tr 24, Tr 25, Tr 26, Tr 27, Tr 28, Tr 29, Tr 30, Tr 31, Tr 32, Tr 33, Tr 34, Tr 35, Tr 36, Tr 37, Tr 38, Tr 39, Tr 40) expressed PD has enhanced better delivery of the subject contents and even dealing children's behavior from the professional development program received. Furthermore, it has enhanced their potential, accelerated the delivery of the best lesson, and produced multitalented citizens. Additionally, teachers (Tr 11, Tr 13, Tr 16, Tr 17, Tr 20, Tr

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25, Tr 28, Tr 29, Tr 30, Tr32, Tr 34, Tr 37) shared that they became competent in their subject delivery and further to impart skills to self and learners too.

Accordingly, all the Principals respondents have revealed that the Professional development program has dramatically impacted the teachers and enhanced the teaching-learning process and use of modern technology. It has helped them become great professionals and provide a lifelong impact on the lives of learners. Therefore, it has raised the teachers' competency level in subject delivery and provided opportunities to learn and apply new knowledge and skills.

Interestingly, the PD records of the participating schools revealed that none of the schools had conducted PD related to enhancing the content of the subjects despite knowing the importance. The finding shows that it does not match what is said and practiced in places. So, it supports the nation's call (Education) to start the PD program to improve how subjects are taught in schools.

4.4.4 Produced competent learners

Out of 40 teachers selected as the structured interviewee, 35 teachers expressed that with the delivery of the PD program by various organizations, they have upgraded their teaching-learning skills and promoted them to produce competent learners. Further, it has enhanced their abilities and capabilities through PD, benefiting students. The update of the content knowledge and pedagogies has made them more competent to deliver quality teaching to upscale the students' performance. Additionally, five teachers have expressed that the PD program for teachers has benefited by raising the professional standard of teachers for producing competent students in their day to a noble life.

According to the principals from different Schools under Trashigang Dzongkhag, 38 of 40 principals stated that the professional enhancement has updated the current changes upgrading their knowledge and skills and benefiting the students, which have fulfilled the requirement of the present and future. Similarly, Pr, 29 and Pr, 38 also pointed out that professional enhancement is the best way teachers can incorporate it into their teaching and learning to produce competent learners.

Therefore, the finding discloses that all the participants strongly believe that relevant PD programs significantly impact producing competent learners. Thus, all the schools must give due importance to sorting to conduct more PD programs related to enhancing the content and pedagogies that cater to the needs of 21st-century learners.

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4.54 Challenges of PD programs

4.54.1 Time constraint

Time is the most challenging factor that distracts teachers from participating in the nation's professional development program. Most teachers (Tr 1, Tr 2, Tr 3, Tr 5, Tr 6, Tr 8, Tr 10, Tr 11, Tr 12, Tr 14, Tr 17, Tr 22, Tr 24, Tr 25, Tr 26, Tr 32, Tr 33, Tr 34, Tr 37, Tr 39) have shared that time constraint is the foremost concerned of every teacher which does not favour them to take part in the professional development program. They also pointed out that it is due to the heavy workload in most schools, especially in remote areas. Accordingly, most principals have expressed that time constraint is one of the schools' significant issues, which superseded their opportunities to participate in the professional development program. Moreover, due to also hamper those to participate in the professional development program, and summer PD programs are the most challenging.

Moreover, a few participants (Tr15, Tr36, and Pr18) expressed that Professional Development in summer is the worst timing for teachers since the communication links in terms of transportation and connectivity in the places are destroyed mainly by natural calamities. Further, they stated that it hampers the instructional hours of classroom teaching and dilutes the quality of teaching-learning when PD is conducted during the monsoon season. It may also cause a hazard to the lives of the teachers.

Similarly, Professional Development on school days was one of the most challenging programs since teachers get exhausted at the end of the day and have to compromise either the instructional time or their time, leading to less commitment (Tr4, Tr10). Similarly, a few Principals also expressed that conducting PD programs during school time is the most challenging as it hampers syllabus coverage and sacrifices instructional hours (Pr17, Pr29). Therefore, it reminds us that PD programs must refrain from scheduling school days and tied schedules.

According to (Tr 22 and Tr 27) Professional Development during a tight Schedule and having additional responsibilities in the school is another challenge that deprives the opportunity to participate in the professional development program and even becomes exhausting with overloaded activities. Moreover, (Pr 4, Pr 30) also highlighted that the Adhoc PD program during the tight schedule adds more workload and disturbs their planning due to limited time.

Therefore, the findings divulge that PD programs during summer break, school days, and tight schedules were not feasible, and concerned authorities must conduct investigations to

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find a suitable day and time. Thus, Saturday is the best time as scheduled by the MoE and must be followed accordingly to build a conducive environment in the school.

4.5.1.2 Limited professional development program

Most teachers and principals have revealed that the main challenge of having a limited Professional Development program is the lack of financial and human resources. On the other hand, the higher expenditure incurred during the conduction of the program further subtracts from continuing with the activities related to teaching and learning as planned. The face-to-face PD programs also limit the proposed program since people waste lots of resources, time, and energy to receive the program successfully (Tr11). Therefore, the management, academic heads, and HoDs must plan to locate reliable facilitators.

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4.5.1.3 Less opportunity for teachers

Most teachers and principals expressed that they have fewer opportunities to attend PD programs offered by different agencies due to the large population of teachers in the school under the same Dzongkhag. According to (Tr9, Tr 20, Tr 21, Tr29), a smaller number of teachers in Primary Schools deprive of their opportunities for PD programs having overload for one teacher teaching different sections.

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On the other hand, the program planned by the organization is limited, and sometimes teacher does not fulfill the criteria to participate in the PD program offered depending on seniority (Pr 13, Pr 34, Pr 40). Therefore, teachers have less opportunity to attend PD programs with heavy work and limited resources.

4.5.1.4 Not highly qualified human resources

Both experiences and qualifications of the resource person or facilitators are lacking to provide the PD programs at the school level and Dzongkhag level. The teacher respondents have shared that there are no highly qualified facilitators to provide the in-service program required to upgrade the teachers' knowledge and skills in teaching-learning to benefit future citizens (Tr12, Tr 13, Tr 23, Tr 17, Tr 30, Tr 36). Not having the required qualification and mismatched subjects hampers delivering the best to the profession. Further, most principals expressed that the quality delivery of teaching and learning is subsidized due to the lack of qualified and experienced resource persons in the field while providing the PD programs at every level. In addition, (Pr1, Pr2, Pr16, Pr20, Pr35) stated that providing high-quality PD rather than quantity is necessary based on qualified facilitators is necessary. The finding

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affirms that facilitators must be resourceful and concerned authorities to look for reliable and knowledgeable facilitators to conduct the school PD program.

4.5.1.5 Limited facilities

Limited facilities such as accommodation and environment are also one of the burning challenges that teachers encounter in attending the professional development program (Tr 19, Tr 26, Tr 29, Tr 40, Tr 37) since the other agencies mostly conduct the PD program in a resort with a great environment. Therefore, teachers do not take an interest in participating and instead remain with no change in their mindset. Similarly, (Pr1, Pr2, Pr11, Pr 26, Pr 35, Pr 37, Pr 40) shared that limited facilities for conducting PD programs for teachers have significantly hampered the quality of teaching and learning in the schools. It has also deprived experienced educators of playing a vital role in student achievement and improving performance in different areas. The researchers felt that the unavailability of required resources has made the teachers reluctant to attend the PD program. The organizer has to strengthen the facilities to accommodate more participants.

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4.5.1.6 Nomination of right person for professional development program

The nomination of the right person for the PD program is one of the challenges faced by schools under Trashigang Dzongkhag. Most of the teachers pointed out that the nomination of the teachers for the PD program is not done fairly and fails to nominate the right person for the right job, especially in larger schools. The mismatched subject nomination for the PD program by the management affects the quality assurance and efficiency of the working atmosphere in the organization. It happens due to peer and family pressure from the management or institutes (Tr 30, Tr 40).

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Most principals expressed that the right person for PD program depends on the requirement and size of the teachers in the school. Therefore, the teachers are accordingly nominated for PD programs to benefit the students and school.

The finding shows that the nomination of the right person to attend PD is the major issue in the district. It is a sign of the weak integrity possessed by the authorities. Therefore, nominations must be made based on the demand and nature of PD programs with the utmost integrity.

5. DISCUSSION

5.1 Introduction

This chapter discusses teachers' and principals' perceptions of professional development programs. The data was collected from 40 teachers, 40 principals and PD documents from 8 schools. It begins with a discussion of "Teachers and Principals' Perceptions on the Most Needed" followed by "Impact of PD Programs" and "PD Challenges."

According to the findings, teachers and principals of different schools under Trashigang Dzongkhag perceived that the professional development program was the most important for quality delivery and upscaling their knowledge and skills in teaching and learning process.

5.2 Teachers and Principals Perception on The the Most Needed Professional Development Program

The findings suggest that teachers and principals consider professional development (PD) as the primary means of enhancing the skills of teachers. Further, most teachers and principals perceive that they need different PD programs, such as PD on ICT, to enhance their teaching skills, incorporating ICT, which is crucial in 21st century era. It is in line with modelling how to use technology for professional development and could be a powerful way to help teachers use technology in new ways in the classroom. ICT can bring the current educational system in line with a society that is based on knowledge and has much information by giving it access to advanced tools, techniques, and methods (Chatterji, 2021 & Ertmer et al., 2012). On the other hand, few teachers expressed that all the teachers across the country undergo thorough PD on the use of ICT as it is necessary and without which they cannot compete with the rest of the world. The finding affirms Ertmer & Ottenbreit-Leftwich (2010) that working with teachers is to develop their knowledge, beliefs, and attitudes can build a sustainable culture that supports ICT as integral to learning and teaching. Therefore, the finding affirms that every teacher needs to emphasize professional development in ICT to face the 21st -century digital world.

The term 21st century skills generally refer to certain core competencies such as collaboration, digital literacy, critical, and problem-solving that advocates believe schools need to teach to help students thrive in today's world. In a broader sense, however, the idea of what learning in the 21st century should look like is open to interpretation and controversy (Rich, 2010).

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This literature confirms most teachers and principals demand 21st century teaching pedagogies. The finding reveals that teaching pedagogies of the twenty-first century are critically needed to prepare teachers to be professionally sound to produce competent students globally capable of overcoming the challenges ahead. The finding aligns with 21st century learning which refers to abilities students must master, such as problem-solving, critical thinking, and digital literacy. It is in line with Jenella (2016), who states that a teacher should be equipped with the characteristics and skills to help students live in the ever-changing technological world. Therefore, a teacher should teach ICT skills to the younger generation and face the digital world throughout their career. The researchers understood that ICT is the main tool for communication to connect with people around the world and interact with students in our day-to-day teaching.

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Accordingly, the finding reveals that teachers and principals recommended that the PD on content development is necessary for all teaching professionals to upscale their content and pedagogical skills. It is broadly understood that content development is a must for every teacher to meet the teachers' competency and strengthen the standard and capacity of the teacher quality in the schools for future learners. According to Shulman (1987) to teach all students according to today's standards, teachers need to understand the subject matter deeply and flexibly to help students create useful cognitive maps, relate one idea to another, and address misconceptions. Teachers must see how ideas connect across the field and to everyday life. However, the subject's content should be infused through the PD program and other relevant in-service programs to realize the quality education for all the schools and children of the nation. Therefore, having content on the subject will promote quality teaching and learning in the school, as stated by all the participants.

Furthermore, the finding divulges that conduction of action research in the school had become a major concern for necessary facts and improvement of both teachers and learners in the organization. It is in line with Hine (2013) that action research methodology provides professionals working in the education system with a systematic, reflective approach to address areas of need within their respective domains. The finding affirms that action research is the fundamental requirement for quality service delivery in every institute, which aligns with Wood et al. (2017) & Lyna et al. (2016) found that teachers acquired the skill to conduct action research at the classroom level and that the teachers took ownership of their learning. The data collected from their classrooms and analysed together became a mediating artefact that created the conditions for learning.

Other findings reveal that action research and research-based teaching have become critical issues to address for improving teaching and learning in schools. All the teachers and school principals suggested that the PD program on action research to given a top priority. The findings align that *Action research* is a formative study that involves finding a problem, taking action, and gathering facts. It helps teachers choose or make the best strategies for a teaching-learning environment. Teachers also learned how to do action research in the classroom and took responsibility for their learning (Lufungulo et al.,2021 & Lyna et al., 2016). The researchers also felt that action research needs to be focussed, and professional development should be planned annually to improve the academic standard.

According to Chireev and Adarsh (2013) argues that students have to learn how to speak the language efficiently through practice to improve their speaking skills. It supports the findings that effective communication is the most required PD to be addressed to the teaching professionals for efficient language development suggested by both teachers and principals. The fundamental skills that need to be promoted and effectively implemented in the teaching profession through various ways and means of developed strategies. Similarly, Davies (2022), Heron (2019), & Robles (2012) state that oral communication skills are the most important, especially the ability to present and talk to a wide range of audiences. Communication is an essential interpersonal skill, and to be a good teacher, one needs to be able to talk to students in a way that gets them to work hard, change their attitudes, and think more. It supports the findings that reveal PD on effective communication should be addressed timely and made more advanced to benefit all the learners in the organization. Therefore, communication is a very important tool to make learners more vibrant and unlock different skills.

The finding also divulges long-term PD programs on curriculum instruction to update teachers with new changes made by the Curriculum Division of the different subject contents. It is essential for upscaling teachers to deliver the standard curriculum of technology and pedagogies methods that would benefit the learners. The finding aligns with Glenn (2018) that an effective curriculum provides teachers, students, administrators, and community stakeholders with a measurable plan and structure for delivering a quality education. The researchers felt schools should motivate teachers to long-term training to compete in the modern era.

The finding unveils that in long-term PD on place-based education (PBE) pedagogy, students need to find ways to apply their own and direct how literacy and problem-solving skills are used. It aligns with Ark (2021) place-based education does this uniquely well while building

citizenship capacity. Congruently, the teachers and principals have shared that PBE has a powerful impact on teaching and learning.

However, only a few schools have conducted the PD on PBE in accordance to the documents maintained. Most of them have not conducted the school-based in-service program on PBE though most have received the training of trainers' workshop. According to the findings, the PBE is very important for educating the youth of today and the teachers need to be provided the long-term PD on PBE. It corresponds to PBE principles local to global, enables students to learn that place begins first with their understanding of themselves and their services in locality and expands to classrooms, schools, communities, regions, and the world with certain qualities, skills and values at each level (TSS,2019). The researcher felt that the PD program on PBE has to be given due importance and recommended to provide in future to happen lifelong learning both inside and outside the classroom to increase student engagement in all learning areas.

5.32 Forms And Impacts Of Professional Development

The finding affirms that most participants stated that the forms of professional development program provided the highest impact on the teacher's teaching knowledge. It shows that the teachers could accelerate the delivery of lessons with required pedagogies, knowledge and skills and increase the student's outcomes. It aligns with Porter et al. (2003) that the aspect of the professional development program was to enhance the teacher's different writing models. When the teachers have internalized the features of good student writing, the knowledge can be transferred to their students, positively impacting student teaching and learning. Therefore, it is important since the teachers could enhance their full potential in teaching and create an impact in the of life children. It shows that the school has to focus more on enhancing 21st teaching pedagogies and providing relevant teaching skills to grow the teachers academically and professionally to lift the standard of the learners.

According to Armour & Makopoulou (2012) & James et al. (2007:63) getting continuous professional development is believed to be beneficial to teachers. Teachers can engage students as lifelong learners only if teachers themselves are engaged in lifelong learning. The literature mentioned above aligns with the findings that promoted teachers' professional growth especially in capacity building, pedagogical skills, and content of the subjects as lifelong learners. The findings affirmed that most schools provided PD related to professional growth but only a few offered relevant PD programs to enhance teaching learning skills.

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Therefore, researchers felt that the schools have to plan the PD by observing the relevancy and needs of the teachers for their professional growth to benefit the students at large.

The result shows that teachers and principals expressed that the PD has favoured them to strengthen subject delivery and accelerate the delivery of the lesson effectively, produce multitalented citizens, and became competent in their subjects to deliver the lesson using modern technology. This finding is associated with Borko et al. (2010) and Desimone (2009) that effective PD does provide some insights into the characteristics of programs that provide high-quality, high-impact learning opportunities for teachers. Therefore, effective PD has enhanced the teaching-learning process and taught learners skills. However, the PD records of the participating schools revealed that most of them had not conducted the PD related to the contents of the subjects in their respective schools.

The PD had upscaled the competency in delivering quality lessons was another finding which aligns with Garet et al. (2001); Huffman et al. (2003); Ingvarson et al. (2005); Smith & Gillespie (2007); Supovitz & Turner (2000) and Yoon et al., (2007) that when teachers have more professional knowledge, the higher are the students' performance. Further, it aligns with Hammond (2000) & Reimers (2003) that professional development plays a vital role in changing teachers' teaching methods, which positively impacts student. The research shows that producing competent learners always depends on teachers' quality and is necessary to give due importance of providing PD on content and teaching pedagogies of 21st Century.

5.43 Challenges of Professional Development Programs

The finding reveals that participation in the PD programs was due to time constraints and heavy workload in the schools of urban and remote places. The finding aligns with Ekşi (2010) inconvenient course time is the most critical barrier to teachers participating in professional development activities. Further, supported by David & Bwisa (2013), Muyan (2010) & OECD (2009, 2014) states that high workload and lack of time is a primary problem related to the professional development of teachers. Furthermore, communication, natural calamities, time, and additional responsibilities have deprived the opportunities to participate in the scheduled PD programs to update the knowledge and skills required. The findings affiliate with Klinkerd (2015, p. 10) "explained that due to many duties, the teachers sometimes cannot manage their work effectively, so they have no time to participate in professional development courses." Further, Gates & Gates (2014, as cited in Klinkerd, 2015, p. 11) claimed that the 'significant obstacle of the teachers to develop their proficiency is they have insufficient time.' The main concerning issues stated by all the teachers and principals

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from different schools were the organization of the PD program during summer vacation, instructional hours, and packed schedule were the significant issues supported by the literature as mentioned above. Therefore, most importantly, most of the respondents have recommended that the schedule framed by the Ministry of Education be strictly adhered to provide equal opportunities for all the teachers to participate in the PD program.

The finding reveals that limited professional development programs were due to the lack of financial resources and other resources in conducting venues under Trashigang Dzongkhag. It aligns with Muyan (2010) that financial problems, excessive workload, strict working hours, and lack of institutional support for professional development. Lack of self-motivation, difficulty reaching the literature in the field, and lack of communication among colleagues are important professional development barriers for teachers. Likewise, the limited budget also creates fewer chances for the teachers to get into the PD programs when conducted by different agencies, which aligns with Kaçan (2004) states that high workload, financial problems, and political pressure are the most critical professional development barriers for teachers. Therefore, the school management team involving all the stakeholders must plan accordingly and locate all the reliable facilities to overcome the challenges in providing future PD programs to the teachers.

The result also shows that a large population of teachers serving in the same school and under the same Dzongkhag does not allow more teachers to participate in the PD program. Similarly, the smaller numbers of teachers in primary schools also get less opportunity to attend PD programs due to overwork pressure with more sections to teach different subjects. The finding is supported by Wichadee (2012) that teachers who participated in PD activities had encountered many obstacles to achieving their professional training; for instance, heavy teaching loads and many notable assignments, no budget support from schools, and no topic of interest. In this way, the teachers have less opportunity to attend the PD program due to limited resources. Further, the findings reveal that every teacher individual to give the opportunities creating more avenues by the management. It aligns with Can (2019) that teachers' professional development is hindered by the way teachers are chosen, placed, and hired, by the uncertainty of educational politics, by the constant change of the education system, by the lack of teachers' organizations, and by teachers' lack of a goal and motivation. In response to this literature, the school leader has to support and always encourage teachers to attend the PD program as per the transformation of education rather than discouraging them from participating.

The finding divulges that no highly qualified resource person is appointed to provide a PD program for the teachers. The Facilitators conducting the program should be resourceful enough to deliver quality skills needed by the teachers and leverage the program successfully. It affiliates with Kanokorn et al. (2012), that identified the teachers' problems with teacher development programs: lack of knowledge, skills, and confidence, shortage of advisors, and inaccessibility of academic resources. It is essential to focus on the resources because quality matters a lot for building the human capacity to generate productive learners.

— According to Woods, Cowie, and Woods (2007), professional development barriers are high workloads and financial problems. The result shows that teachers' zeal to participate in the PD is condemned due to limited facilities in terms of living space and financial resources. According to OECD (2009, 2014), the most significant barriers are lack of incentives for participation, high participation cost, and other barriers like no relevant opportunities available and lack of employer support. The researchers felt that it is crucial to create more facilities to train teachers and upgrade to educate our learners.

The finding also reveals that nominating teachers with mismatched subject from the different ground have affected the quality delivery and collaboration of the team. It aligns with Richter et al. (2011) emphasized this when they mention that teachers in their final teaching stage tend to reduce their commitment and career ambition. Therefore, it lacks intellectual stimulation when selecting the program. The overall message shows that the nomination of the right person for the PD program is the weak integrity possessed by the higher authorities. The ethical issue expressed in the finding was significant to address the nomination of the right people for the in-service program without any bias to ensure quality teaching and learning in the future. Further, nomination for the PD program must be based on the demand and nature of the content without any discrimination.

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6. CONCLUSION, LIMITATION AND RECOMMENDATIONS

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6.1 Introduction

This chapter presents the conclusion and recommendations. Firstly, the summary of the study is presented to highlight the background, objectives, literature review, and final analysis of findings. Secondly, the conclusion of the study is drawn. It also presents the limitations of this research and proposes a recommendation for future studies, followed by a chapter summary.

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6.21 Conclusion

After evaluating the study conducted and the data collected through structured interview questionnaires of perceptions of the teachers and principals on the professional development need, types, impact, and challenges.

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I have concluded that teachers' professional development is needed to update and make them globally competent and deeply rooted in the teaching pedagogies of the 21st century. I have also come across specific professional development programs that must continue to benefit our teachers in the field. Eventually, an in-service program at the national level and conduct the rest of the level has impacted the teachers professionally in developing skills, content delivery, and producing quality learners. In these ways, teachers exchange ideas, learn what they want, and apply what they know in actual classroom practices. Apart from this, there are different types of challenges faced by the teachers to undergo the professional development program in other areas, which requires strong attention to curb the problems for effective teaching and learning.

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Thus, there should be a proper plan and resources allocated to anticipate the needs of the teachers through professional development in most of the schools chosen for the study to realize all facts and experiences expressed by the stakeholders.

6.32 Limitation

- Research in all 56 schools involving primary, lower, middle, and higher secondary schools under Trashigang Dzongkhag was impossible due to rugged geographical features, transport costs, and logistics. The study was limited to only 40 teachers from primary, lower, middle, and higher secondary schools located in the urban, semi-urban, and remote.
- The research could not cover whole lower secondary and primary schools under Trashigang Dzongkhag due to communication and internet connectivity.

- The research data collected from 40 different Schools are limited to the few samples that do not integrate all the schools in the Dzongkhag.
- The research data on the PD conducted in 40 schools during the academic year and the rest of the year are limited only a few schools submitted due to unavoidable circumstances.
- The structured interview tools limits to gather of enough data for the research. It might have collected better and more prosperous data if the researchers could have used semi-structured interviews.
- The quantitative and mixed methods could gather rich data using different tools.
- Researches could have collected the PD documents' content instead of the record list. It would have better understood the quality of the content delivered to the participants.

6.43 Recommendations

Based on the analysis of the qualitative data and results, the researchers would like to recommend the following strategies for areas where it needs more focus to promote professional development programs for the teachers under Trashigang Dzongkhag to raise the competency of the teachers timely.

- Dzongkhag Education office needs to find the schedule of the PD program to be offered to the teachers in consultation with the Ministry of Education and facilitate arrangements to avoid the monsoon season and instructional hours so that every teacher gets an opportunity to participate in updating changes in the curriculum.
- The Dzongkhag Education Office and Ministry of Education to allocate all the reliable resources and revise the number of PD programs to overcome the challenges in providing enough in-service programs to the teachers related to teaching and learning.
- Dzongkhag Education Office and Ministry of Education to create more avenues for PD programs so that every teacher can participate in those serving with more teaching fraternities in large schools.
- It is the time that defines the success and failures of any programs, henceforth the Dzongkhag Education Office and Ministry of Education to coordinate to appoint qualified resource persons to facilitate any PD programs for the teachers in teaching and learning in the future.
- Establish more resources and facilitate the PD programs for the teachers to raise quality updating and benefit students since many teachers have been deprived of the chance due to limited facilities.
- Dzongkhag Education Office and Ministry of Education to nominate the right person for the right PD without creating nepotism and discrepancies while nominating the teacher. Therefore, higher authorities must facilitate the nomination on demand and the content's nature to fulfill the agency's dreams and wishes.
- Dzongkhag Education Office and Ministry of Education to find more budget to provide professional training and refresher courses for all levels of school teachers to face the challenges in 21st Century teaching pedagogies.

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- Dzongkhag Education Officers and Principals of the schools to discussed on the common PD programs focusing on content and 21st teaching pedagogical development.
- Principals, Academic head and HoD's of the schools of Trashigang Dzongkhag to inform that PD programs must be strictly scheduled on Saturdays according to the finding and directives of ministry of Education (need to refer office order, please).
- The findings also remind the schools to focus more on Content and Pedagogical development PD for teachers.

6.54 Summary

An in-service program at the national level and conducted at the rest of the level has impacted the teachers professionally in developing skills, content delivery, and producing quality learners. The research data collected from 40 different Schools are limited to a few samples that do not integrate all the schools in the Dzongkhag. Principals, Academic heads, and HoD's of the schools of Trashigang Dzongkhag to inform that PD programs must be strictly scheduled on suitable days or Saturdays as instructed by MoE. The findings also remind the schools to focus more on Content and Pedagogical development PD for teachers.

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REFERENCES

Akbari, R., & Tajik, L. (2012). Second-language teachers' moral knowledge base: A comparison between experienced and less experienced male and female practitioners. *Journal of Moral Education*, 41(1),39-59.

Alade, O., & Odebo, O. (2014). An assessment of the impact of the teachers' professional development program under Lagos "eko" secondary education project in Lagos State. *Journal of Education and Practice*, 5, 1-8.

Amanulla, A., & Aruna, P. (2014). Effect of teacher efficacy on professional development of higher secondary school teachers of Kerala. *Journal of Humanities and Social Science (IOSR- JHSS)*, 19, 37-41.

Avalos, B. (2011). Teacher professional development in teaching and teacher education over ten years. *Teaching and Teacher Education*, 27, 10-20.

Billingsley, B. (2004). Promoting teacher quality and retention in special education. *Journal of Learning Disabilities*, 37, 370-376.

~~Billingsley, B. (2004). Promoting teacher quality and retention in special education. *Journal of Learning Disabilities*, 37, 370-376.~~

Bolam, R. (2002). Professional development and professionalism. In T. Bush & R. Bell (Eds.), *The principles and practice of educational management* (pp. 103-118). London, England: Paul Chapman.

Buczynski, S., & Hansen, C. B. (2010). Impact of professional development on teacher practice: Uncovering connection. *Teaching and Teacher Education*, 26, 599-607. <http://doi.org//10.1016/j.tate.2009.09.006>

Burns, M., & Lawrie, J. (2015). *Where it matters most: Quality professional development for all teachers*. New York, NY: Inter- Agency Network for Education in Emergences.

~~Burns, M., & Lawrie, J. (2015). *Where it matters most: Quality professional development for all teachers*. New York, NY: Inter- Agency Network for Education in Emergences.~~

Butina, M. (2015). Focus: Conducting qualitative research: *A narrative approach to qualitative inquiry*. 28,3. <http://hwmaint.elsjournal.ascls.org>

Creswell, J. (2007). *Qualitative inquiry and research design*. Thousand Oaks, CA: SAGE.

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Creswell, J. W. (2014). *Research design: Qualitative, quantitative and mixed approaches*. SAGE Publications Ltd.

Creswell, J. W. & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publications Ltd.

Daresh, J. C. (2003). *Teachers mentoring teachers*. Thousand Oaks, CA: Corwin Press.

Davies, L. (2022, 16 August). What is effective communication? Skills for work, school, and life. <https://www.coursera.org/articles/communication-effectiveness>

Denzin, N. K. & Lincoln, Y. S. (2011). *The SAGE handbook of qualitative research*. SAGE.

Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Research, (38)*, 181-199.

Dhendup, S., Jatsho, S., & Tshering, S. (2021). *Exploring Teachers' Perceptions of Professional Development: A Research Study Undertaken in Thimphu District Schools*. Ministry of Education, Thimphu, Bhutan.

6 Evers, A., Van der Heijden, B., & Kreijns, K. (2016). Organizational and task factors influencing teachers' professional development at work. *European Journal of Training and Development, 40*, 36-55.

Fernandez-Manzanal, R., Serra, L., Morales, M., Carrasquer, J., Rodríguez-Barreiro, L., del Valle, J., & Murillo, M. (2015). Environmental behaviours in initial professional development and their relationship with university education. *Journal of Cleaner Production, 108*, 830-840.

Gabriel, R., Day, J. P., & Allington, R. (2011). Exemplary teacher voices on their own development. *Phi Delta Kappan, 92*(8), 37- 41.

Gao, X., & Ma, Q. (2011). Vocabulary learning and teaching beliefs of pre-service and in-service teachers in Hong Kong and Mainland China. *Language Awareness, 20*(4), 327-342.

10 Garet, M., Cronen, S., Eaton, M., Kurki, A., Ludwig, M., Jones, W., Szejnberg, L. (2008). *The impact of two professional development interventions on early reading instruction and achievement*. Washington, DC: National Center for Educational Evaluation and Regional Assistance, Institute of Education Sciences.
<http://ies.ed.gov/ncee/pdf/20084030.pdf>

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- Garet, M.S., Porter, A.C., Desimone, L., Birman, B.F., & Yoon, K.S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal*, 38(4), 915-45.
- Gates, B., & Gates, M. (2014). Teachers know best-teachers views on professional development. <https://s3.amazonaws.com/edtech-production/reports/gates-pdmarketresearch-dec5.pdf>
- Geldenhuis, J., & Oosthuizen, L. (2015). Challenges influencing teachers' involvement in continuous professional development: A South African perspective. Challenges influencing teachers' involvement in continuous professional development: A South African perspective. *Teaching and Teacher Education*, 51, 203-212.
- Girvan, C., Conneely, C., & Tangney, B. (2016). Extending experiential learning in teacher professional development. *Teaching and Teacher Education*, 58, 129-139.
- Glenn, S. (2018, June 25). Importance of curriculum to teaching. <https://classroom.synonym.com/importance-curriculum-teaching-6189570.html>
- Guskey, T., & Yoon, K. (2009). What works in professional development? *Phi Delta Kappan*, 90, 495-500.
- Harris, D., & Sass, T. (2011). Teacher training, teacher quality and student achievement. *Journal of Public Economics*, 95, 798-812.
- Harris, J., Cale, L., & Musson, H. (2011). The effects of a professional development programme on primary school teachers' perceptions of physical education. *Professional Development in Education*, 37, 291-305. <http://doi.org/10.108019415257.2010.531973>
- Hill, H. C., Beisiegel, M., & Jacob, R. (2013). Professional development research consensus, crossroads, and challenges. *Educational Researcher*, 42, 476-487. <http://doi.org/10.3102/0013189X13512674>
- Jurasaitė-Harbison, E., & Rex, L. A. (2010). School cultures as contexts for informal teacher learning. *Teaching and Teacher Education*, 26, 267-277.
- Korkko, M., Kyro-Ammala, O., & Turunen, T. (2016). Professional development through reflection in teacher education. *Teaching and Teacher Education*, 55, 198-206.
- Maria, M., & García, I. (2016). Informal online communities and networks as a source of teacher professional development: A review. *Teaching and Teacher Education*, 55, 291-307.

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Maxwell, T.W. & Laird, D.J. (n. d.). *The Impact of Teacher Professional*

Development in Bhutan: A Retrospective Analysis of the INSET Report

Recommendations.

McMillan, J.H., & Schumacher, S. (2009). *Research in Education: Evidence-based inquiry.*

Pearson, 5-6.

Meissel, K., Parr, J., & Timperley, H. (2016). Can professional development of teachers reduce

disparity in student achievement? *Teaching and Teacher Education, 58*, 163-173.

Ministry of Education. (2013). *Teacher Professional Development Programme.*

<https://sites.google.com/a/moe.gov.bt/tpsd/about-us>

Ministry of Education. (2014). *Teacher Human Resource Policy 2014.* Ministry of Education.

https://planipolis.iiep.unesco.org/sites/default/files/ressources/bhutan_teacher_human_resource_policy_2014.pdf

Mohammadi, M., & Moradi, K. (2017). Exploring change in EFL teachers' perceptions of

professional development. *Journal of Teacher Education for Sustainability, 19*(1), 22 –

42. <http://doi.org/10.1515/jtes-2017-0002>

Pehmer, A., Groschner, A., & Seidel, T. (2015). How teacher professional development

regarding classroom dialogue affects students' higher-order learning. *Teaching and*

Teacher Education, 47, 108-119.

Polly, D., McGee, J., Wang, C., Martin, C., Lambert, R., & Pugalee, D. (2015). Linking

professional development, teacher out-comes, and student achievement: The case of a

learner-centered mathematics program for elementary school teachers. *International*

Journal of Educational Research, 72, 26-37.

Poskitt, J. (2005). Towards a model of New Zealand school-based teacher professional

development. *New Zealand Journal of Teachers' Work, 2*, 136-151.

Powell, E., Terrell, I., Furey, S., & Scott-Evans, A. (2003). Teachers' perceptions of the

impact of CPD: An institutional case study. *Journal of In-service Education, 29*, 389-404.

Richardson, V. (2003). The dilemmas of professional development. *Phi Delta Kappan, 84*,

401-406.

Sagir, M. (2014). Teachers' professional development needs and the systems that meet them.

Creative Education, 5, 1497-1511. <https://doi.org/10.4236/ce.2014.516167>

Santagata, R., Kersting, N., Givvin, K. B., & Stigler, J. W. (2011). Problem implementation

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as a lever for change: An experimental study of the effects of a professional development program on students' mathematics learning. *Journal of Research on Educational Effectiveness*, 4, 1-24.

Sedova, K., Sedlacek, M., & Svaricek, R. (2016). Teacher professional development as a means of transforming student class- room talk. *Teaching and Teacher Education*, 57, 14-25.

Willemse, T., Dam, G., Geijssels, F., van Wessum, L., & Volman, M. (2015). Fostering teachers' professional development for citizenship Education. *Teaching and Teacher Education*, 49, 118-127.

Witte, T., & Jansen, E. (2016). Students' voice on literature teacher excellence. Towards a teacher organized model of continuing professional development. *Teaching and Teacher Education*, 56, 162-172.

Witte, T., & Jansen, E. (2016). Students' voice on literature teacher excellence. Towards a teacher organized model of continuing professional development. *Teaching and Teacher Education*, 56, 162-172.

Woods, P. A., Cowie, M., & Woods, G. J. (2007). Head teachers' professional development: Provision, barriers, and needs. Glasgow: Learning and Teaching Scotland.

Vandar, T. (2021, November 12). The importance of place-based education. <https://givingcompass.org/article/the-importance-of-place-based-education>

Villegas Reimers, E. (2003). Teacher professional development: An international review of literature. Paris: International Institute for Educational Planning. <http://www.cndwebzine.hcp.ma/cndsii/img/pdf/http~4.pdf> (16.7.2010)

Yoon, K. S., Duncan, T., Lee Wen-Yu, S., Scarloss, B., & Shapley, K. L. (2007). Reviewing the evidence on how teacher professional development affects student achievement. Washington: Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest. [http://ies.ed.gov/ncee/edlabs\(21.8.\)](http://ies.ed.gov/ncee/edlabs(21.8.))

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