


ORIGINAL ARTICLE

# Exploring Bhutanese Teachers' Perceptions of Differentiated Instruction in Inclusive Schools in Bhutan<sup>†</sup>

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## Abstract

Differentiated instruction (DI) is an inclusive teaching approach that recognises and values student differences. Teachers teaching in inclusive schools practise DI to accommodate students with special educational needs and disabilities. However, no research has yet been conducted to explore teachers' perceptions of DI in Bhutan. The purpose of this quantitative study is to explore teachers' perceptions of DI and the differences in their perceptions based on demographic variables. Data were collected via an online survey from 185 teachers in 19 inclusive schools and were analysed using descriptive and inferential statistics. The results indicated that the majority of teachers had favourable perceptions of DI. No significant perceptual differences were found on qualifications and teaching experiences. However, special education teachers' perceptions of DI were significantly higher than general education teachers ( $M = 4.14$ ,  $SD = .37$ ), ( $M = 3.89$ ,  $SD = .41$ ), respectively,  $t(183) = 4.194$ ,  $p = .000$ , and trained teachers' perceptions of DI were also found to be significantly higher than untrained teachers ( $M = 4.09$ ,  $SD = .39$ ), ( $M = 3.81$ ,  $SD = .40$ ), respectively,  $t(183) = 4.090$ ,  $p = .000$ . The implications of the research findings are discussed with recommendations for further research in this area.

**Keywords:** differentiated instruction; inclusive education; inclusion; perceptions; Bhutan; special educational needs

Today's classrooms are growing increasingly complex. At present, one can readily see that a general classroom contains a mosaic of students with various backgrounds, experiences, needs, and abilities (Tomlinson & McTighe, 2006). The concept of inclusion and access for children with special educational needs and disabilities (SEND) into general education classrooms have posed a greater challenge for educators (Dorji et al., 2021), because teachers have to develop and implement pedagogical strategies that enable all students to access and participate in all aspects of the curriculum. Programming for and teaching students with varying needs in an inclusive classroom is an ongoing challenge for many Bhutanese educators (Chhetri et al., 2020; Dorji et al., 2021; Kamenopoulou & Dukpa, 2018; Schuelka, 2018).

Bhutan, a small country in South Asia, has embraced inclusion in education by ratifying United Nations' legislations such as the Convention on the Rights of Persons With Disabilities in 2010, and the Convention on the Rights of the Child in 1990 (Ministry of Education, Royal Government of Bhutan, 2012). Bhutan is also committed to achieving the United Nations' *Education for All* objectives by aligning its efforts to achieve inclusion in educational practices (Dorji et al., 2021). The fundamental rights of all children to education is highlighted in several key government policy documents

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(Dorji & Schuelka, 2016). The provision of education to all children is guaranteed in Articles 9.15 and 9.16 of the *Constitution of the Kingdom of Bhutan* (Royal Government of Bhutan, 2008). *Bhutan Education Blueprint 2014-2024* also emphasises inclusion and equitable education for all children (Ministry of Education, Royal Government of Bhutan, 2014).

Inclusive education has gained attention quite recently in Bhutan (Dorji et al., 2021; Dorji & Schuelka, 2016). As a result, terms like *special educational needs* (SEN) and *inclusion* are frequently confused and used interchangeably, with some policymakers and educators believing that they imply the same thing (Subba et al., 2019). Inclusive education, according to the UNESCO (1994) definition, aims to remove the barriers to participation and promote 'school for all'. This means institutions must recognise differences, encourage participation, and respond to individual needs and differences of gender, culture, language, ethnicity, socioeconomic status, and disabilities (Subba et al., 2019). In Bhutan, inclusive education focuses on the inclusion of every child regardless of disabilities, colour, creed, culture, language, religion, or regional background for their education (Dorji, 2015). However, the current state of inclusion in Bhutan is patchy and there is a limited number of well-trained inclusive education teachers to support its implementation (Dorji et al., 2021). Dukpa and Kamenopoulou (2018) argued that the effectiveness of the concept and practice of inclusion depends on trained teachers.

Bhutan continues to promote inclusive education within the regular education system (Subba et al., 2019). There are 19 mainstream schools that are identified as inclusive schools (which include lower secondary schools, central schools, and higher secondary schools) that cater special education services to about 800 students with SEND. Approximately 700 teachers teach in these schools. Currently, the type of education provision for children with SEND in inclusive schools is a separate and inclusive model (Dorji & Schuelka, 2016). This means that children with profound needs and disabilities are pulled out of the mainstream classes to the resource rooms for additional small-group support, as per their individual needs, for about 3 hours daily. These students are taught by general education teachers, who are designated by the school to take on the role of full-time special education teachers. A school designates at least three to seven general education teachers as full-time special education teachers, based on the number of students who require special education services. Students with mild to moderate special needs are taught in general classrooms by general education teachers who make appropriate adjustments in the teaching and learning process. SEN teachers support general education teachers in the mainstream classes to give more in-depth accommodations and small-group support in subject areas where students demonstrate extensive needs (Subba et al., 2019). These teachers attend 10 days of national-based inclusive education training, which is organised by the Ministry of Education (MoE), during their summer and winter holidays. In addition, they also participate in school-based inclusive education seminars and workshops.

Studies have found that teachers face challenges in teaching children with SEN (Dorji & Schuelka, 2016; Subba et al., 2019). Most Bhutanese teachers are not prepared to address the diverse needs of students in inclusive classrooms (Dorji et al., 2021), and most of them are incapable of teaching students with SEND, due to a lack of adequate training and knowledge in inclusive education practices (Schuelka, 2018). The Early Childhood Care and Development (ECCD) and Special Educational Needs (SEN) Division of MoE has now engaged in professional training of teachers who teach in inclusive schools on inclusive education practices and differentiated instruction (DI) in order to bridge the knowledge and practice gap. However, recent studies have reported that teachers rarely differentiate instruction (Dukpa et al., 2021); rather, whole-class instruction is predominant, even in inclusive classrooms (Schuelka, 2018). International studies have reported that teachers' reluctance to practise differentiation is due to inadequate DI knowledge and training (Mengistie, 2020; Moosa & Shareefa, 2019b). Studies also identified a lack of preparation time, administrative support, motivation, heavy workload, negative attitudes, and large class sizes as the major constraints to the successful implementation of DI (Merawi, 2018; Suprayogi et al., 2017).

Teachers are the most important change agents in the education system (Dorji & Schuelka, 2016). Their perceptions towards their students, and their use of instructional methods, have a direct impact on students' academic achievement (Tomlinson, 1999). Perceptions and beliefs regarding DI must be

investigated, because teachers' perceptions have a substantial influence on their practices. Teachers working in the same environment may have differing perspectives based on experience, qualifications, or training. Moreover, there is limited research conducted to investigate teachers' perceptions regarding DI in South Asia. Therefore, the proposed study aimed to investigate Bhutanese teachers' levels of perceptions towards DI and perceptual differences based on demographic variables. The study seeks to address two major questions:

1. What are teachers' levels of perceptions of DI?
2. Are there any statistically significant differences in teachers' perceptions of DI based on their demographic variables?

### ***Differentiated Instruction***

DI means teachers' response to learners' needs, and helping children achieve a common learning goal, whatever the methods used to reach the end (Tomlinson, 1999). It is a teaching philosophy that allows teachers to adapt instruction to address student differences. Differentiation is embedded in the beliefs of variability among learners, such as interests, learning styles, preferences, abilities, and needs (Tomlinson, 2008).

Strogilos (2018) argued that DI is a prerequisite and an appropriate approach for the inclusion of children with SEND in mainstream classrooms. Westwood (2015) also acknowledged that DI is fundamental to the concept of inclusion and stated that, to effectively accommodate children with SEND in mainstream classes, teachers must 'possess a wide range of teaching and management strategies' (p. 2). The primary goal of differentiation is to maximise the potential of all learners by proactively designing lessons in response to individual needs. Santangelo and Tomlinson (2012) also affirmed that, if implemented well, differentiation has significant and meaningful benefits for varying student needs.

There is no single formula for how DI works. Teachers can adapt and adjust instructions in several ways, as per the needs and abilities of the learners (Logan, 2011). Importantly, teachers can differentiate instruction based on what is to be learned (content), how it is learned (process), how learning is demonstrated (product), and where the learning takes place (learning environment), according to students' readiness, interests, and learning profiles (Tomlinson, 2017).

### ***Teachers' Perceptions of DI***

Teachers may hold different views about DI, which are influenced by their beliefs and attitudes towards teaching and learning (Tomlinson, 2008), as well as their level of exposure to DI content (Tomlinson & Imbeau, 2010). For effective teaching, having a positive perception is vital. Teachers' perceptions and beliefs towards their students and teaching have a significant impact on students' academic performance and their practices (Merawi, 2018; Moosa & Shareefa, 2019a). Guskey (2002) stated that perceptions and beliefs about teaching are often primarily derived from classroom practices and experiences. Cobb (2004) asserted that, to address today's classroom of students with academic diversities, teachers need to not only amend some instructional practices but also shift their perceptions of teaching and learning.

Santangelo and Tomlinson (2012) posit that teachers' actions are the result of their attitudes. Teachers who are knowledgeable about DI, and have experienced using DI, tend to have more positive perceptions than those who are not (Suprayogi et al., 2017). It is argued that perception is shaped over time, through a gradual process of inculcation (Mills, 2013); therefore, the complexity of pedagogical content knowledge requires numerous years of experience and practice (Hilyard, 2004). Teachers who believe they can differentiate instruction give students more options (Brentnall, 2016), play key roles in establishing a new change in the education field (Richards-Usher, 2013), and focus on strengthening practices that have strong implications for student improvement (Nairz-Wirth & Feldmann, 2019).

## Materials and Methods

### Research Design

To collect data, we employed a quantitative research design called ‘cross-sectional survey design’. According to Creswell (2012), the advantage of this design is that it provides an opportunity to collect large amounts of information within a limited time frame to measure current attitudes and practices.

### Participants

The targeted population for the study was teachers who were currently teaching in 19 inclusive schools with a population size of about 700. As per Krejcie and Morgan’s (1970) Table, a sample size of 248 can be selected from such a population. The purposive sampling method was used to select the participants from 19 inclusive schools. Purposive sampling is a non-probability sampling method that allows a researcher to select participants who can provide the richest and most relevant information for the study (Lodico et al., 2010; Mugenda & Mugenda, 1999). The participants who fulfilled one of the following criteria were invited to take part in the survey, after seeking and obtaining permission from their school principals: (a) special education teachers who teach children with SEND, (b) general education teachers who teach and support children with SEND in general classrooms, and (c) teachers who have attended inclusive education workshops. A total of 185 teachers agreed to participate in this survey, with a response rate of 75%.

### Research Instrument

The data for this study were collected using an online survey, developed using Google Forms. The 15 items on the perception scales are adapted from Shareefa et al. (2019) and Richards-Usher (2013), and modified to reflect the local contexts. As a result, the instrument underwent rigorous validity and reliability procedures. The content of the instrument was strictly reviewed and validated by three experts, using the item-objective congruence method. The ratings from the three experts were combined to find indices of item-objective congruence measures for each item. The range of the index score for an item is 0 to 1. The level of the criteria of the items was set at 0.5. Those items that had scored more than 0.5 were retained, and those items that scored below 0.5 were revised, based on the recommendations and comments from the three experts.

The instrument was further pilot tested on 15 teachers to determine the reliability of each item. Cronbach’s alpha coefficient was then applied. Each item had a coefficient of reliability above 0.7, indicating that the items were reliable for use in this study. Thus, the questionnaire consists of two parts. The first was designed to collect data about participants’ demographic information. The second, which consists of 15 items on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with 3 being a neutral category (i.e., neither agreeing nor disagreeing), was designed to collect data about teachers’ perceptions of DI. As the Likert scale is widely used in educational research, the data are typically treated as both ordinal and interval data (Blaikie, 2003). Furthermore, Norman (2010) asserted that ‘parametric statistics can be used with Likert data, with small sample sizes, with unequal variances, and with non-normal distributions, with no fear of “coming to the wrong conclusion”’ (p. 631).

Best and Kahn’s (1998) criteria were used to interpret the meaning of teachers’ perceptions of DI. These were classified into five levels, as follows:

$$\text{Width of class interval} = \frac{\text{Highest Score} - \text{Lowest Score}}{\text{Number of Level}} = \frac{5 - 1}{5} = 0.80$$

4.21–5.00 = Highest; 3.41–4.20 = High; 2.61–3.40 = Moderate; 1.81–2.60 = Low; 1.00–1.80 = Lowest.

### **Data Collection and Ethical Procedures**

This study strictly followed the Institutional Review Board protocols to collect data. After getting approval from the Institutional Review Board, Faculty of Social Science and Humanities, Mahidol University, Thailand (Certificate of Approval No.: 2021/041.1604), the researcher sought permission from the director-general of the Department of School Education to collect data from teachers of 19 inclusive schools. After getting permission from the director-general, the researcher contacted and sought permission from the principals, through emails and phone calls, before sending the consent forms, participant information sheets, and questionnaires. Participation in this research was voluntary. Teachers who wished to participate signed the consent form after reading the participant information sheet attached to the first part of the survey questionnaire. The school principals provided the survey link to the teachers, who signed the consent forms through their school social media accounts (e.g., Messenger, WeChat, and Telegram). The survey was left open for one month, from 15 May to 15 June 2021, giving the participants enough time to familiarise themselves with the procedures involved in the survey. The submitted questionnaires were accessible only to the researcher.

### **Data Analysis**

The collected data were first coded and then entered into IBM SPSS software (Version 21.0). The data were analysed using descriptive and inferential statistics. Percentage, frequency, mean, and standard deviation were employed to determine teachers' level of perception of each DI item, and independent samples *t*-test and one-way ANOVA were used to determine perceptual difference based on demographic variables.

## **Results**

### **Demographic Information**

The demographic information was summarised based on gender, qualifications, teaching experience, types of teachers, and professional development (see Table 1). Of the 185 participants, 81 (43.8%) were male and 104 (56.2%) were female. Regarding educational qualifications, the majority of the participants held a bachelor's degree ( $n = 126$ , 68.1%). Thirty-two (17.3%) had obtained a master's degree, 20 (10.8%) had a postgraduate diploma in education, and the remaining seven (3.8%) had a primary teacher certificate. While 122 (65.9%) participants were general education teachers, 63 (34.1%) were special education teachers. In terms of teaching experience, 38 (20.5%) had more than 16 years of experience. Teachers with less than 5 years of experience accounted for 48 (25.9%) of the total, followed by teachers with 11 to 15 years of experience, who accounted for 47 (25.4%); 52 (28.1%) had 6 to 10 years of teaching experience. Although 109 participants (58.9%) had received professional development (PD) on DI, 76 (41.1%) had not.

### **Teachers' Perceptions of DI**

The first research question aimed to examine teachers' perceptions of DI. As summarised in Table 2, the mean for the items ranged from 2.75 to 4.72, and the standard deviation from 0.73 to 1.20. Interestingly, the majority of the participants in this study held a favourable perception of most of the DI statements. A large number of the participants believed that DI is an effective instructional approach to be used in inclusive classrooms ( $M = 4.2$ ,  $SD = 0.81$ ). Although 161 (87%) of the participants agreed with the statement, there were 17 (9.2%) who were neither in favour nor against the statement, and seven (3.8%) who disagreed.

On the other hand, of the 185 participants, 120 (64.9%) agreed that DI is challenging to practise, 48 (25.9%) were not in favour or against the statement, and 17 (9.2%) believed that DI is not challenging. Similarly, participants produced the lowest mean score on Item 9, which asked whether participants

**Table 1.** Demographic Information of the Participants ( $N = 185$ )

Demographic categories		Frequency	Percentage
Gender	Male	81	43.8
	Female	104	56.2
Educational qualifications	Primary teacher certificate	7	3.8
	Bachelor's degree	126	68.1
	Postgraduate degree	20	10.8
	Master's degree	32	17.3
Types of teachers	General education teachers	122	65.9
	Special education teachers	63	34.1
Teaching experience	Less than 5 years	48	25.9
	6–10 years	52	28.1
	11–15 years	47	25.4
	More than 16 years	38	20.5
Professional development	Yes	109	58.9
	No	76	41.1

had adequate PD on DI or not. Less than half of the participants ( $n = 84$ , 45.4%) indicated they do not have sufficient PD on DI, 43 (23.2%) indicated that they have sufficient PD on DI, and the rest ( $n = 58$ , 31.4%) did not indicate whether they have sufficient PD on DI. In terms of lesson planning using DI, 80% of the participants, representing a mean score of 4.16, perceived it as time consuming. This indicated that most teachers perceived that practising DI is challenging and requires a lot of time to plan and implement in practice. This could be due to a lack of adequate training and PD and a lack of necessary knowledge and skills to differentiate instruction. Specifically, 25 (13.5%) participants disagreed that they have adequate knowledge and skills to differentiate, whereas 71 (38.4%) were indifferent to this statement.

It was also found that most participants in this study had some misconceptions regarding Items 12 and 13. About 55.1% of participants believed that differentiating instruction meant lowering performance standards for students, and 67.7% believed that DI should be practised exclusively by teachers teaching children with special needs.

### Comparisons of Teachers' Perceptions Based on Demographic Variables

To answer the second research question, an independent samples  $t$ -test and one-way ANOVA were computed to investigate teachers' perceptual differences based on their demographic variables (see Table 3). Although no perceptual differences based on gender, qualifications, or teaching experience were observed, statistically significant perceptual differences were observed based on the types of teachers and PD.

The  $t$ -test result showed that there were no statistically significant perceptual differences between male and female teachers,  $t(115)$ ,  $df(183)$ ,  $p > .05$ , whereas statistically significant perceptual differences were observed between general and special education teachers,  $t(-4.194)$ ,  $df(183)$ ,  $p < .05$ , and between teachers who had availed themselves of PD and those who had not,  $t(4.909)$ ,  $df(183)$ ,  $p < .05$ . Thus, the results indicated that special education teachers had a more favourable perception



**Table 2.** Teachers' Level of Perceptions of Differentiated Instruction

Statements	<i>M</i>	<i>SD</i>	<i>Strongly disagree and Disagree</i> f(%)	<i>Neutral</i> f(%)	<i>Strongly agree and Agree</i> f(%)
1. Differentiated instruction is for all students who come from varied backgrounds and learning experiences.	4.39	.90	10 (5.5%)	11 (5.9%)	164 (88.6%)
2. Differentiated instruction enhances the academic achievement of students with special educational needs and disabilities.	4.41	.78	5 (2.7%)	6 (3.2%)	174 (94.1%)
3. It is important for teachers to know their students' strengths and needs before planning to differentiate instruction.	4.72	.73	5 (2.7%)	1 (.5%)	179 (96.8%)
4. Students' feelings, moods, and emotions are important factors to consider before teaching.	4.46	.74	4 (2.1%)	6 (3.2%)	175 (94.7%)
5. I am responsible for teaching all students at their level of readiness.	4.26	.78	4 (2.1%)	17 (9.3%)	164 (88.6%)
6. Students are more engaged in learning when lessons are differentiated.	4.29	.79	4 (2.2%)	15 (8.1%)	166 (89.7%)
7. I have the required knowledge and skills to differentiate instruction.	3.44	.93	25 (13.5%)	71 (38.4%)	89 (48.1%)
8. Using differentiated instruction has improved my ability to use a variety of teaching strategies with students.	3.79	.77	7 (3.8%)	52 (28.1%)	126 (68.1%)
9. I have got adequate professional development and training on differentiated instruction.	2.75	1.06	84 (45.4%)	58 (31.4%)	43 (23.2%)
10. Differentiated instruction is challenging to practise.	3.78	.91	17 (9.2%)	48 (25.9%)	120 (64.9%)
11. Differentiated instructional lesson planning requires a lot of time to develop, plan, and execute.	4.16	.76	2 (1.1%)	35 (18.9%)	148 (80%)
12. To differentiate instruction means lowering performance standards for students.	3.45	1.07	39 (21.1%)	44 (23.8%)	102 (55.1%)
13. Differentiated instruction should be practised by teachers teaching children with special educational needs and disabilities only.	3.72	1.20	39 (21.1%)	21 (11.4%)	125 (67.5%)
14. I believe differentiated instruction is an effective instructional approach to be used in the inclusive classroom.	4.22	.81	7 (3.8%)	17 (9.2%)	161 (87%)
15. Teachers should practise differentiated instruction on a daily basis.	3.78	.84	13 (7%)	42 (22.7%)	130 (70.3%)
<b>Overall</b>	<b>3.97</b>	<b>.42</b>			

of DI than general education teachers, and, similarly, teachers who had acquired PD on DI had a more favourable perception than teachers who had not.

One-way ANOVA was employed to investigate the perceptual differences based on qualifications and teaching experience (see Tables 4 and 5), as these demographic variables had more than two categorical groups. The results of the ANOVA indicated that there were no statistically significant perceptual differences across teachers' levels of educational qualifications,  $F(3, 181) = 2.379, p > .05$ , and teaching experience,  $F(3, 181) = 1.066, p > .365$ .

**Table 3.** Teachers' Perceptions of Differentiated Instruction (DI) Based on Demographic Variables (Independent Samples *t*-Test)

DI perceptions		<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	Sig.
Gender	Male	81	3.98	.44	.115	183	.909
	Female	104	3.97	.40			
Types of teachers	General teachers	122	3.89	.41	4.194	183	.000
	Special teachers	63	4.14	.37			
Professional development	Yes	109	4.09	.39	4.090	183	.000
	No	76	3.81	.40			

Note. The mean difference is significant at the  $p < 0.05$  level.

**Table 4.** One-Way ANOVA Comparing Teachers' Perceptions Across Levels of Educational Qualifications

	Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
Between groups	1.208	3	.403	2.379	.071
Within groups	30.626	181	.169		
Total	31.834	184			

**Table 5.** One-Way ANOVA Comparing Teachers' Perceptions Across Levels of Teaching Experience

	Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
Between groups	.552	3	.184	1.066	.365
Within groups	31.281	181	.173		
Total	31.834	184			

## Discussion

The importance of inclusive education is to tailor instruction so that no child is excluded from learning (UNICEF, 2014). To create a more inclusive learning environment and to address the learning needs of children with SEND, teachers teaching in inclusive schools are required to practise DI.

The first research question examined teachers' perceptions of each DI item. The findings showed that most Bhutanese teachers have a favourable perception towards most of the DI items, and have strong beliefs and faith in using DI for the inclusion of their students with SEND. This can be seen in the fact that the majority of participants agreed that DI was an effective teaching approach, and that practising it enhanced their ability to use a wide range of teaching strategies to accommodate different learners. This is consistent with the research finding of Wan (2016), who found that teachers who have used DI in their daily classroom practices are generally enthusiastic and hold strong beliefs in this instructional approach. Teaching beliefs, efficacy, and experience play a critical role in shaping teachers' perceptions (Moosa & Shareefa, 2019b; Suprayogi et al., 2017). Nicolae (2014) also strongly affirmed that in order for teachers to use DI, they should have a strong belief in it, because their need for DI is based on their beliefs. If teachers' beliefs or perceptions toward DI are positive, it can have positive implications for their practices (Suprayogi et al., 2017; Wan, 2017). Teaching beliefs, according to Wu et al. (2015), are critical in influencing classroom behaviours, which affect the effort, persistence, and resilience that a teacher will exhibit when faced with the difficulties of teaching children with varying needs. Furthermore, studies have found that teachers who have had previous experience teaching



children with SEND have favourable attitudes towards inclusive education practices (Dorji et al., 2021; Kamenopoulou & Dukpa, 2018). Foreman and Arthur-Kelly (2017) also highlighted the observation that people who have a rich experience of working with children with disabilities have more positive attitudes than people with limited experience. Bhutanese teachers, according to Dorji et al. (2021), are generally complacent and compassionate, with positive attitudes towards inclusive education, and are supportive of including children with SEND in regular classrooms.

Another key finding in this research is that the majority of the participants perceived DI as time consuming and challenging to practise. As the current findings imply, this could be related to inadequate training, as well as limited knowledge and skills to differentiate instruction. According to Tomlinson and Imbeau (2010), it is because teachers lack the competence to diversify instruction that they may not use DI. Moreover, time and resource constraints, large class sizes, lack of administrative support, commitment, and motivation all play a role in making DI challenging to implement (Melesse, 2015; Mengistie, 2020; Moosa & Shareefa, 2019a; Suprayogi et al., 2017) and have all been identified as the major constraints that lead to teachers' low perceptions of DI (Nicolae, 2014; Tomlinson & Imbeau, 2010). According to Merawi (2018), as student diversity grows and resources become scarce, teachers' perceptions of DI and its implementation might be overwhelming. Furthermore, Nicolae (2014) also highlighted that a significant challenge in implementing DI is a lack of knowledge and abilities in adjusting curriculum materials for learners with diverse learning styles, and preparing them to act accordingly. As these challenges may have a negative impact on teachers' perceptions, Tomlinson and Imbeau (2010) stated that DI will not be implemented effectively if teachers perceive it as challenging and beyond their capability.

In the present study, we also discovered that participants had certain misconceptions about DI (see Table 2). The majority of the participants believed that differentiating instruction means lowering performance standards for students. This might lead to teachers having low expectations for their students with special needs. According to Tomlinson and Imbeau (2010), DI is not about lowering performance standards; it is about giving students a range of learning options, depending on their readiness, interests, and learning profiles. DI is not just for teachers of children with SEND; it is for all teachers. Researchers around the globe have affirmed DI as an effective instructional approach, to be used for all types of students, and which should be practised by all teachers. Misconceptions about DI, as per Tomlinson (2017), can lead to doubts about its successful implementation. Consequently, such misunderstandings should be addressed by providing all teachers with DI-content-based training and knowledge. The lack of adequate training is a major impediment to DI implementation success (Tomlinson & Imbeau, 2010) and for the successful inclusion of children with SEND (Dorji et al., 2021; Dukpa & Kamenopoulou, 2018).

Concerning the second research question, which investigated teachers' perceptual differences based on demographic variables, the present study found statistically significant perceptual differences between trained and untrained teachers, and between special and general education teachers. Teachers who have received sufficient PD on DI had favourable perceptions. Merawi (2018) also discovered that trained teachers had more positive perceptions than untrained teachers. This is because trained teachers are more familiar with the various concepts, theories, and strategies of DI (Richards-Usher, 2013). Baxter (2013) also found that PD has a positive effect on teachers' attitudes. Moreover, Richards-Usher (2013) determined that intensely trained teachers, who had a sound understanding of the theories and rationale of DI, showed a positive attitude towards practising and implementing it in their classes. This means that teachers need continuous improvement through professional learning to implement innovative pedagogical practices in their classrooms.

Similarly, in the present study, we also found that special education teachers had a more favourable perception than general education teachers. But the reasons for perceptual discrepancies between general and special education teachers in the Bhutanese context have to be researched further, because we could not conclusively determine the specific reason for such perceptual differences due to the lack of strong empirical data to support the current findings. Nevertheless, Waldron (2007) found that over 70% of general education teachers lacked the necessary skills to teach students with SEND. General

education teachers, according to Santangelo and Tomlinson (2012), lack DI expertise and skills and fail to understand its significance. Furthermore, special education teachers, in our experience, devote more time teaching children with SEND using DI. Teachers who are familiar with and have used DI in their daily practices have more positive attitudes (Suprayogi et al., 2017). Liu et al. (2010) also stated that teachers who are well versed in the theory and philosophy behind the implementation of a new approach are better equipped to put it into practice.

In contrast, no statistically significant differences were observed in the perceptions of DI based on level of teaching experience, which is similar to the research findings of Merawi (2018) and Shareefa et al. (2019). As DI is a relatively new teaching approach, having only recently begun to be practised in inclusive schools in Bhutan, most participants, even though they have been teaching for a long time, may not have adequate classroom experience with it. Studies have found that both novice and experienced teachers struggle to teach children with special needs in inclusive classrooms, due to a lack of knowledge and experience, whether with inclusion or DI (Dorji et al., 2021; Dukpa et al., 2021). Additionally, teachers may not actually have adequate exposure to the concept of inclusion or DI, having been introduced only recently into inclusive schools. According to Suprayogi et al. (2017), one may expect a shift from ‘teachers as subject experts’ to ‘teachers as pedagogical and didactical experts’ after several years of experience. No significant perceptual differences were observed across teachers’ levels of qualification either. Teachers may have earned a higher level of education. It is possible that the qualifications they obtained and the training and courses they took part in may not be relevant and DI focused. Dukpa et al. (2021) also found that Bhutanese teachers are not adequately trained and had differing views on DI. According to Moosa and Shareefa (2019b), qualifications and experience, which are explicitly related to DI content, along with the chance to practise differentiation in everyday teaching, might have an impact on teachers’ perceptions of DI. Thus, when it comes to teachers’ perceptions of DI, it is the specific pedagogical content knowledge and the relevancy of training programs and materials that matter, not simply experience and qualification.

Nonetheless, the potential influence of teaching experience and qualifications on teachers’ perception of DI cannot be negated. Some studies have highlighted that teachers who are highly qualified, and who have more years of teaching experience, are more aware of a broad range of educational practices (Hightower et al., 2011; Liu et al., 2010). Similarly, Sheehan (2011) and Davis (2013) also stated that qualified and experienced teachers believed and portrayed DI to be a highly effective instructional approach to address the varied learning needs of students. Donnell and Gettinger (2015) also contend that experienced teachers hold a broader range of knowledge, skills, and confidence.

### Limitations

This study has certain limitations. Initially, the plan for this study was to collect data using a questionnaire and a focus group discussion. However, due to government restrictions associated with COVID-19, no focus group discussion took place. If these instruments had been used, the study’s conclusions might have varied and more in-depth data might have been obtained. At the same time, we had difficulty obtaining the expected number of participants, because most schools were under lockdown at the time of data collection, again in relation to COVID-19. This impacted the study’s sample size and our ability to obtain in-depth results.

### Conclusion, Implications, and Recommendations

This study presented an overview of how DI is perceived by teachers teaching in inclusive schools in Bhutan. In particular, we discovered that teachers have favourable perceptions towards DI, and they see it as an effective approach for including students with SEND who have a variety of needs. Teachers’ positive perception towards DI is expected to enhance the use of DI to successfully include children with SEND. Moreover, studies have also shown that when teachers’ perceptions of DI improve, so does their willingness to practise it. This implies that having a positive perception of DI is instrumental in

boosting its use to cater responsive education to all students. As a result, it is suggested that school administrators should strive to maintain teacher positivity by appropriately addressing the challenges that teachers experience, as these challenges may negatively impact teachers' perception of DI.

The results of the current study also showed that DI implementation is challenging. Consequently, the findings have several implications for teachers, school administrators, and the MoE. Teachers and school leaders should collaborate to overcome the challenges of DI implementation if schools are to deliver high-quality education and ensure that all students have fair and equitable opportunities. Furthermore, continuous monitoring and assistance from administrators and MoE may help DI implementation. The challenges teachers encountered in implementing DI need to be investigated further, as there are likely to be additional factors and nuances that detract teachers' perceptions towards DI implementation.

The relevant agency under the MoE needs to do a review of both the quality and quantity of the training materials made available for teachers teaching in inclusive schools. Teachers should be provided training that is both relevant and DI content based. Furthermore, since the data were not collected in such a way that conclusions from quantitative data could be triangulated with qualitative data, additional research with a larger sample size, undertaken with the use of other data analysis techniques, and under a robust mixed-methods design that enables triangulation is recommended.

Finally, despite a growing body of international studies on teachers' pedagogical knowledge and practice with regard to the inclusion of students with SEN in regular schools, there is limited evidence in the South Asian region on the use of inclusive teaching approaches for including children with SEN in regular classrooms. More research is needed to better understand teachers' knowledge and practices of inclusive teaching approaches, as well as some of the factors that promote and impede the inclusion of students with SEND in regular schools.

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