



## **Are Teachers Adequately Prepared for Inclusive Classrooms in Cambodia? Knowledge and Experience for Inclusive Practices**

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This study examined Cambodian teachers' knowledge and experience related to inclusive education and investigated differences in their knowledge and experience based on schools that implemented and did not implement inclusive education programmes. A survey was administered to 1,008 regular teachers from 236 primary schools of all 25 provinces and cities in Cambodia. Among the selected schools, 50% implemented inclusive education, while the other 50% did not. A four-part questionnaire was employed for data collection. Data analysis encompassed descriptive statistics, the Chi-Square analysis, and the independent sample t-tests. The study revealed that teachers had limited experience and knowledge in implementing inclusive practices. Teachers from schools with inclusive education programmes exhibited significantly higher levels of experience in inclusive education training ( $\varphi = 0.21$ ,  $p < 0.001$ ), teaching students with disabilities ( $\varphi = 0.21$ ,  $p < 0.001$ ), and collaborative efforts ( $\varphi = 0.23$ ,  $p < 0.001$ ) than those from schools without such programmes. They also demonstrated significantly greater knowledge concerning policies, inclusive education ( $t = -8.29$ ,  $p < 0.001$ ), and disability ( $t = -3.12$ ,  $p < 0.001$ ) than their counterparts. The study provides various implications for improved policies and teacher training programmes to enhance teachers' knowledge and experience for inclusive practices in Cambodia.

Keywords: knowledge, experience, inclusive education, disability, inclusive classrooms, Cambodia

### **INTRODUCTION**

The international trends in educational development for students with disabilities (SWDs) have evolved from providing segregated special education to integrated education and now inclusive education (IE). The movements aim to promote the rights of SWDs to be included in mainstream educational settings (Kuroda et al., 2017). There is no universally applicable model for implementing IE. Various countries have embraced diverse approaches, transitioning from special education to integrated education and further to IE, and sometimes revisiting these models based on their

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context and changes in policies. Some nations adopt a combination of these approaches to cater to the specific needs of individuals. Crucially, it is imperative for the education system to accommodate students' unique special educational needs (SEN) instead of expecting them to conform to the rigid structures of the school system (Disability Action Council, 2003).

Cambodia has committed to providing IE services to SWDs by adopting international development agenda, developing IE training (IET) programmes, formulating various national policies, and implementing IE programmes in regular public schools. In 2019, for instance, it adopted the goal of Agenda 2030 on Sustainable Development Goal 4 (SDG4) as its first education policy priority to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all' (Ministry of Education, Youth, and Sport (MoEYS), 2019). Among various targets, Agenda 2030 emphasises the quality of teacher training in preparing teachers with practical knowledge and skills to cater to student's individual needs, regardless of their SEN and disabilities. Target 4.C states that 'by 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States' (United Nations Educational, Scientific, and Cultural Organisation (UNESCO), 2015, p.21). Evidence-based strategies and policies need to address inclusion barriers regarding teaching and learning materials, inclusive school facilities, and especially IET (UNESCO, 2015).

A large body of literature consistently asserts that providing IET to both pre-service and in-service teachers significantly influences the effective implementation of IE. However, studies in various countries commonly found that teachers often received insufficient and ineffective IET (e.g. Loreman et al., 2013; Malinen et al., 2013; Sharma & Sokal, 2015), including Cambodia (e.g. Kuroda et al., 2017; Ravet & Mtika, 2021). In Cambodia, previous studies indicate that teachers severely lack IET to implement inclusive practices, especially those in rural areas (Ravet & Mtika, 2021). The training they have received is ineffective, leading to a lack of knowledge, skills, and teaching experience to meet the special needs of SWDs. For instance, the current training on IE follows a cascade training model, limiting the exposure of the comprehensive concept of IE to the majority of teachers at the school level. Additionally, there is a lack of on-site support to guide teachers in implementing inclusive practices with SWDs (Kuroda et al., 2017). Contributors to ineffective IET also include the short training duration, trainers' limited knowledge, and inadequate training facilities (Šiška & Suchánek, 2015). With large class sizes, a shortage of teachers possessing adequate knowledge and skills in IE, and misconceptions about the benefits of inclusion, most schools decline to admit SWDs into regular classrooms (Kalyanpur, 2016). Therefore, the implementation of IE programmes is currently very limited (see MoEYS, 2022) despite these programmes being mandated by existing policies. Moreover, many teachers may only be inclined to accept students with milder disabilities, such as physical and cognitive disabilities, into their regular classrooms (Kalyanpur, 2016).

### **Implementation of Inclusive Education**

Despite the exclusive focus on training to enhance teachers' knowledge and skills related to inclusion, it is important to consider alternative initiatives. The replacement of half of the inadequately trained teachers with those specifically educated in IE can be a time-consuming process. For example, the Netherlands has a long history of implementing IE. Even though teacher training incorporates IE courses and offers advanced training opportunities, teachers often feel unprepared due to a lack of practical experience in teaching students with SEN (Pijl, 2010). This thesis does not assert that IET is ineffective or unnecessary; rather, it proposes additional initiatives that could be implemented at the school level to efficiently prepare teachers for inclusive practices in a shorter timeframe. It emphasises involving teachers in the IE process, regardless of considering their IET qualifications, through the school-level implementation. Previous research has highlighted that such implementation improves teachers' self-efficacy for inclusive practices and attitudes toward inclusion (Malinen et al., 2013; Wray et al., 2022).

While some teachers may lack comprehensive IET, hands-on experience in teaching students with SEN can be invaluable (Alnahdi, 2019; Pijl, 2010). Through collaboration, teachers can learn from their own experiences and from their colleagues, allowing them to effectively implement inclusive practices in their respective schools. However, successful outcomes from IE programmes at the school level necessitate robust collaborative support for colleagues (Pijl, 2010) and the leadership team (Valdés & Gómez-Hurtado, 2023). Leadership teams have a pivotal role in establishing and encouraging inclusive practices. Research by Valdés and Gómez-Hurtado (2023) revealed that the administrative burdens and overwhelming responsibilities faced by school principals and their educational leadership teams were the major obstacles hindering the cultivation of an inclusive culture in Chile. However, these challenges were less prominent in schools that had adopted IE programmes and demonstrated a more robust inclusive culture. This was attributed to the dedication of leadership teams to prioritise pedagogical inclusivity, embrace diversity, and foster teacher self-reflection.

In Cambodia, it is evident that IE notion has been introduced in public schools since the enactment of the Law on Education in 2007 (Cambodia National Assembly, 2007) and the implementation of the Policy on Education for Children with Disability (PECD) in 2008 (MoEYS, 2008). Article 9 of the Law on Education ensures the right of SWDs to receive education in regular classrooms alongside their peers without disabilities, with additional support from teachers (Cambodia National Assembly, 2007). In 2018, PECD was revised into the Policy on IE (PIE) to align with Agenda 2030. PIE asserts that individuals with special needs are entitled to receive inclusive and equitable quality education and life-long learning opportunities (MoEYS, 2018). Due to the new prevalence of the IE concept, one of its urgent strategies is to urgently build capacity for teachers and school management to prepare to include students with SEN and disabilities into regular classrooms. It aims to train teachers to teach persons with SEN and disabilities at all educational levels, offers incentives to teachers teaching SWDs, develops teacher capacities in IE to stay up to date with technological progress and

globalisation, enhances teachers' pedagogy on disability, builds required skills in catering to diverse SEN, and develop pre-service and in-service training resources for teachers (see MoEYS, 2018).

Since the implementation of IE, there has been no monitoring and evaluation of its implementation at the school level. The effects of implementing IE programmes at the school level and understanding teachers' knowledge and experience related to inclusive practices remain unaddressed. Understanding these aspects is salient for informing policy implementation to enhance teacher education and provide the necessary support to improve teachers' knowledge and experience in meeting the specific needs of SWDs.

### **Experience and Knowledge of Inclusive Education**

Previous research provides compelling evidence that prior experience related to IE, such as teaching SWDs, training experience, and collaborating with colleagues, is associated with improved attitudes (Minke et al., 1996; Scanlon et al., 2022), decreased concerns (Shah et al., 2016), and enhanced self-efficacy (Malinen et al., 2013) of teachers in implementing inclusive practices within mainstream educational settings. Such experience significantly influences the implementation of IE at the school level. For instance, Minke et al. (1996) found that teachers in inclusive classrooms demonstrated more positive attitudes towards including students with mild disabilities than those in traditional classrooms. Teaching experience with SWDs not only enhances teachers' attitudes towards inclusion but also their self-efficacy in implementing inclusive practices (Wray et al., 2022). Shah et al. (2016) noted that teachers with extensive teaching experience but limited experience in teaching SWDs expressed greater concerns than their counterparts who had more of such experience. Furthermore, previous studies emphasise that experience of IET has a significant impact on the successful implementation of IE (e.g. Loreman et al., 2013; Malinen et al., 2013; Sharma & Sokal, 2015). Collaboration experience with colleagues (Pijl, 2010) and parents (Adiputra & Hendrowati, 2019) is also recognised as a pivotal factor increasing collaborative support for effective inclusion at the school level.

Teachers' knowledge of IE domains also stands as a crucial determinant of the success or failure of inclusive practices. Developing teachers' knowledge to effectively address the diverse needs of individuals, particularly those with disabilities, necessitates substantial effort and time (Pijl, 2010). Numerous previous studies across different contexts highlight the common lack of knowledge related to IE among teachers, leading to their significant concerns about inclusion (e.g. Agbenyega & Klibthong, 2014; Maria, 2013) and reluctance to take on the responsibility of including SWDs (Pijl, 2010).

To date, there is no standardised measurement for assessing teachers' knowledge related to IE. It is salient that several studies have used a single-item measurement to gauge teachers' knowledge on IE (e.g. Agbenyega & Klibthong, 2014; Pijl, 2010; Sharma & Sokal, 2015). For example, Agbenyega and Klibthong (2014) evaluated the perceived knowledge of Thai early childhood teachers regarding inclusive practices using a set of 13 items. These items encompassed areas such as 'knowledge on how to collaborate with other professionals', 'knowledge on developing IEPs', and 'knowledge of Thailand's inclusive policy framework'. Teachers rated their knowledge levels on a

five-point Likert scale. The study revealed that a significant majority of Thai teachers (72%) indicated their knowledge of IE as 'poor'.

Similarly, Sharma and Sokal (2015) examined the knowledge of Canadian and Australian teachers about local legislation, disabilities, and inclusion through a series of single-item questions. These questions prompted teachers to rate their knowledge on a five-point Likert scale. The findings indicated that around 63% of Australian participants perceived their knowledge of disabilities as 'nil' or 'poor', while 37% considered it 'average'. Among Canadian participants, 63% rated their knowledge as 'good' or 'very good', 20% as 'average', and 11% as 'poor'. These findings indicate a serious concern about the link between teachers' knowledge and teaching practices (Agbenyega & Klibthong, 2014). The lack of knowledge about local legislation, disabilities, and inclusion is a primary obstacle for teachers in establishing inclusive learning environments for all students. This deficiency leads to increased negative attitudes and heightened concerns about including SWDs in their classrooms (Forlin & Chambers, 2011). Overall, previous studies highlight the importance of understanding teachers' knowledge and experience regarding IE in implementing inclusive practices.

### **Aims and Research Questions**

The aim of this study was two-fold: (1) to conduct a nationwide survey involving regular primary school teachers to assess their knowledge and experience related to IE and (2) to determine whether variations existed in their knowledge and experience based on the implementation of IE programmes. The study addressed two research questions:

1. What were the levels of Cambodian primary school teachers' knowledge and experience related to IE?
2. Were there significant differences in the knowledge and experience related to IE between teachers from schools that implemented and did not implement IE programmes?

### **METHOD**

#### **Research design**

This study used a quantitative approach with a survey research design to assess Cambodian teachers' knowledge and experience for inclusive practices and examined whether their knowledge- and experience-related aspects varied based on schools that implemented and did not implement IE. The purpose was to generalise the findings to all regular primary schools and teachers across Cambodia. Rather than surveying every individual in the population, the survey design allows for data collection from a representative portion of the population (Fowler, 2009). By utilising the survey design, it enabled the study to gather data from a large number of teachers across the country, enhancing the generalisability of the findings to the broader population of regular primary schools and teachers in Cambodia.

### **Participants**

A cluster random sampling method was employed to select a total of 236 primary schools across 25 provinces and cities in Cambodia as research sites. The selection was based on two criteria: (1) school location and (2) schools that implemented and did not implement IE. All teachers from these selected schools were invited to participate in the study, and a total of 1,008 teachers voluntarily completed the questionnaire, with a response rate of 71%. It should be noted that among the participants, 33% were male and 67% were female. In terms of teaching experience, 27% reported having 1–5 years of teaching experience, 22% had 6–10 years of teaching experience, and 51% had 11 years or more of teaching experience. Additionally, age distribution among participants revealed that 16% were 18–24 years old, 27.88% were 25–31 years old, 22.02% were 32–38 years old, 13.19% were 39–45 years old, 12% were 46–52 years old, and 8.83% were 53–59 years old and older. Approximately 29% of the participants were from schools located in urban areas, while 71% were from schools in rural areas. Furthermore, 50% of them were from schools that implemented IE programmes, while the remaining 50% were from schools that did not. Additionally, 80 primary school teachers voluntarily completed the questionnaire for the pilot study, with a response rate of 69%.

### **Questionnaire**

The present study employed a four-part questionnaire for data collection. This questionnaire was developed based on previous research examining the attitudes, concerns, and self-efficacy of in-service teachers towards IE (e.g. Agbenyega & Klibthong, 2014; Kuyini et al., 2020; Poon et al., 2016; Sharma & Sokal, 2016; Sokal & Sharma, 2014). It was divided into four sections, encompassing variables related (1) demographic information such as school details, personal information, educational background, professional learning, and work experience, along with (2) attitude, (3) concern, and (4) self-efficacy scales.

However, in this study, it is important to note that three experience-related variables and seven knowledge-related variables were incorporated as independent variables in the analysis. These variables were related to the concept and domains of IE, which were also measured by previous studies (see Agbenyega & Klibthong, 2014; Maria, 2013). Moreover, the variable ‘implementation of IE (1 = Not implemented, 2 = Implemented)’ was utilised as a dependent variable. The experience-related variables were dichotomous variables, evaluating teachers’ experience of IET, experience of teaching SWDs, and experience of collaborating for inclusive practices. The knowledge-related variables were continuous variables and measured teachers’ knowledge of the United Nations (UN) Convention on the Rights of Persons with Disabilities (UNCRPD), PECD, PIE, IE, disability, special education, and the individualised education programmes (IEPs). Teachers were requested to assess their knowledge across these areas on a five-point Likert scale (1 = very poor, 2 = poor, 3 = average, 4 = high, and 5 = very high). The questionnaire underwent a pilot phase and subsequent revisions to ensure its clarity and appropriateness for the Cambodian teacher samples, taking into account the specific context of Cambodia.

### Data collection and ethical issues

We obtained ethical approval and permission for data collection from the Research Ethics Review Board of Hiroshima University in Japan and MoEYS in Cambodia. In Japan, we received ethical approval from the Research Ethics Review Board of Hiroshima University on 24 February 2023, with reference number 'HR-ES-000805'. In Cambodia, we obtained MoEYS' approval for data collection on 6 February 2023, with reference number '735'. We also obtained permission from the target schools to ensure that ethical concerns were addressed. We explained the study's purpose to the participants in advance and assured them that their personal information would be kept confidential. We explained that participation was voluntary, and they could withdraw anytime. We obtained individual consent from all participating primary school teachers and distributed the questionnaire to them. The data collection process was divided into two phases, both utilising the KOBO Toolbox. The first phase involved a pilot study, while the second phase constituted the actual data collection. In the initial phase, the questionnaire was distributed to 20 primary schools across two provinces, involving 80 participants. Necessary revisions were made to the instrument, and it was subsequently administered to the target sample of 1008 teachers in 236 primary schools during the second phase.

### Data analysis

To analyse the data, descriptive statistics such as mean ( $M$ ) and standard deviation ( $SD$ ) with 99% confidence interval ( $CI$ ) estimations were computed to assess the level of knowledge- and experience-related variables in IE. Additionally, a Chi-Square analysis was conducted to determine if there were significant differences in teachers' experience-related variables based on school that implemented and did not implement IE programmes (1 = Not implemented, 2 = Implemented). The choice of Chi-Square analysis was appropriate as both the dependent and independent variables in the study were categorical or dichotomous variables. The analysis involved examining the values of Pearson Chi-Square ( $\chi^2$ ), significant values ( $p$ ), and Phi ( $\phi$ ) for interpretation and discussion. For Chi-Square analysis, Phi ( $\phi$ ) refers to the strength of relationship or effect size according to Cohen (1988), which is considered as Pearson's correlation ( $r$ ) (Morgan et al., 2004).

The independent sample  $t$ -test was utilised to assess whether there were significant differences in teachers' knowledge-related variables based on schools that implemented and did not implement IE programmes. The independent sample  $t$ -test was suitable for this estimation because it aimed to compare the means of teachers' knowledge-related variables of two groups: teachers from schools that implemented and did not implement IE programmes (1 = Not implemented, 2 = Implemented). For the assessment of knowledge in IE, teachers were asked to rate their knowledge related to policies, IE, special education, disability, and IEPs on a Likert scale ranging from 1 to 5 (1 = very poor; 2 = poor; 3 = average; 4 = high; and 5 = very high). A higher score indicated a higher level of knowledge in IE-related areas. The analysis considered the  $t$ -values, significant values ( $p$ ), and the effect sizes ( $d$ ) according to Cohen (1988).

## FINDINGS

### Experience related to inclusive education

Table 1 presents the descriptive statistics of experience-related variables. The results reveal that 30% of the participants reported having some experience of IET, while the remaining 70% had no experience of IET. Additionally, 45% of the participants had experience teaching SWDs throughout their teaching career, compared to 55% who did not. Interestingly, 53% of the participants reported having some experience with collaboration to teach students with and without disabilities in their classrooms, while 47% did not report any collaboration experience.

Table 1  
Number (*n*) and percentage (%) of experience-related variables

Variables	<i>n</i>	%
Experience of IET		
No	704	70
Yes	304	30
Teaching SWDs		
No	558	55
Yes	450	45
Collaboration experience		
No	473	47
Yes	535	53

### Knowledge related to inclusive education

Table 2 shows the results of descriptive statistics of knowledge-related variables by percentage (%), mean (*M*), and standard deviation (*SD*) with 99% of CI values. Teachers were asked to rate their knowledge on a scale from 1 (very poor) to 5 (very high) for knowledge-related variables. The results indicate that teachers reported slightly above the means ( $M = 2.50$ ) of knowledge across all domains of IE, with ratings below the value of 3 (average). The results show diverse and statistically significant knowledge-related variables, as indicated by the non-overlapping 99% CI values. Their knowledge related to policies such as UNCRPD ( $M = 2.81$ ,  $SD = 0.57$ ), PECD ( $M = 2.53$ ,  $SD = 0.60$ ), and PIE ( $M = 2.54$ ,  $SD = 0.59$ ), as well as IE ( $M = 2.57$ ,  $SD = 0.60$ ), and disability ( $M = 2.51$ ,  $SD = 0.62$ ) were all rated slightly above the means. They rated their knowledge the lowest in special education ( $M = 2.32$ ,  $SD = 0.64$ ) and IEPs ( $M = 2.37$ ,  $SD = 0.65$ ).



Table 2  
Mean (*M*) and standard deviation (*SD*) of knowledge-related variables with 99% of CI values

Variables	<i>M</i>	<i>SD</i>	Lower CI	Upper CI	Sig.
Knowledge of UNCRPD	2.81	0.57	2.76	2.85	$p < 0.001$
Knowledge of PECD	2.53	0.60	2.48	2.58	$p < 0.001$
Knowledge of PIE	2.54	0.59	2.49	2.59	$p < 0.001$
Knowledge of IE	2.57	0.60	2.52	2.62	$p < 0.001$
Knowledge of special education	2.32	0.64	2.27	2.37	$p < 0.001$
Knowledge of disability	2.51	0.62	2.46	2.56	$p < 0.001$
Knowledge of IEPs	2.37	0.65	2.32	2.42	$p < 0.001$

Table 3 presents the detailed distribution of each item of knowledge in IE. Although teachers indicated slightly above the means in most knowledge areas, most rated them between 'poor' and 'average', while a few rated them as 'very poor' and 'very high'. None of the participants rated 'very high'. For instance, 18% of the participants indicated 'poor' knowledge of UNCRPD and 74% indicated it was 'average'. Regarding knowledge of PECD, 40% rated their knowledge as 'poor' and 54% reported it as 'average'. Similarly, for knowledge of PIE, 39% reported 'poor' knowledge and 56% reported it as 'average'. Regarding knowledge of IE, 37% of teachers rated their knowledge as 'poor' and 58% rated it as 'average'. For knowledge of special education, 53% indicated 'poor' knowledge and 38% indicated 'average' knowledge. For knowledge of disability, 42% of participants indicated 'poor' knowledge, while 51% reported 'average' knowledge. For knowledge about IEPs, 49% indicated their knowledge as 'poor' and 42% indicated it as 'average'.

Table 3  
Distribution of knowledge-related items in percentage (%)

Variables	Very poor	Poor	Average	High	Very high
Knowledge of UNCRPD	3	18	74	4	0
Knowledge of PECD	4	40	54	1	0
Knowledge of PIE	4	39	56	1	0
Knowledge of IE	4	37	58	2	0
Knowledge of special education	8	53	38	1	0
Knowledge of disability	4	42	51	2	0
Knowledge of IEPs	8	49	42	2	0

### Effects of inclusive education programmes on experience

Table 4 presents the results of the Chi-Square analysis. The results indicated that teachers from schools that implemented IE programmes had significantly more experience in IET compared to those from schools that did not implement IE programmes ( $\chi^2 = 42.86$ ,  $\phi = 0.21$ ,  $p < 0.001$ ). Phi ( $\phi$ ) representing the effect size was 0.21, indicating a small effect size according to Cohen (1988). Furthermore, teachers from schools that implemented IE programmes had significantly more experience in teaching SWDs than those from schools that did not implement IE programmes ( $\chi^2 = 46.05$ ,  $\phi = 0.21$ ,  $p < 0.001$ ). The effect size ( $\phi$ ) was 0.21, indicating a small effect size.

Lastly, it was found that teachers from schools that implemented IE programmes had significantly more collaboration experience compared to those from schools that did not implement IE programmes ( $\chi^2 = 53.54$ ,  $\phi = 0.23$ ,  $p < 0.001$ ). The effect size ( $\phi$ ) was 0.23, indicating a small effect size.

Table 4

Results of chi-square analysis of significant differences in experience-related variables by the implementation of IE

Variables	<i>n</i>	Not implemented	Implemented	$\chi^2$	$\phi$
Experience of IET				42.86***	0.21
No	704	399	305		
Yes	304	104	200		
Experience of teaching SWDs				46.05***	0.21
No	558	332	226		
Yes	450	171	279		
Collaboration experience				53.54***	0.23
No	473	294	179		
Yes	535	209	326		

Note. \*\*\* $p < 0.001$ ;  $\chi^2$  = Pearson Chi-Square;  $\phi$  (Phi) = Strength of relationship or effect size according to Cohen (1988)

#### Effects of inclusive education programmes on knowledge

Table 5 presents the results of the independent sample t-test. The findings revealed that teachers from schools that implemented IE programmes differed significantly from those from schools that did not implement IE programmes in terms of their knowledge of UNCRPD ( $t = -2.97$ ,  $p < 0.01$ ), PECD ( $t = -3.74$ ,  $p < 0.001$ ), PIE ( $t = -6.95$ ,  $p < 0.001$ ), IE ( $t = -8.29$ ,  $p < 0.001$ ), and disability ( $t = -3.12$ ,  $p < 0.001$ ).

The mean score of knowledge of UNCRPD for teachers from schools that implemented IE programmes ( $M = 2.86$ ,  $SD = 0.57$ ) was significantly higher than the mean score for those from schools that did not implement IE programmes ( $M = 2.76$ ,  $SD = 0.56$ ). The effect size ( $d$ ) was -0.19, indicating a small effect size, according to Cohen (1988). Similarly, the mean score of knowledge of PECD for teachers from schools that implemented IE programmes ( $M = 2.60$ ,  $SD = 0.59$ ) was significantly higher than the mean score for those from schools that did not implement IE programmes ( $M = 2.46$ ,  $SD = 0.61$ ), with a small effect size ( $d = -0.24$ ). Additionally, the mean score of knowledge of PIE for teachers from schools that implemented IE programmes ( $M = 2.67$ ,  $SD = 0.55$ ) was significantly higher than the mean score for those from schools that did not implement IE programmes ( $M = 2.42$ ,  $SD = 0.61$ ), with a small effect size ( $d = -0.44$ ). Moreover, the mean score of knowledge of IE was significantly higher for teachers from schools that implemented IE programmes ( $M = 2.72$ ,  $SD = 0.54$ ) compared to those from schools that did not ( $M = 2.41$ ,  $SD = 0.63$ ), with a medium effect size ( $d = -0.53$ ). Lastly, the mean score of knowledge of PIE for teachers from schools that implemented IE programmes ( $M = 2.57$ ,  $SD = 0.64$ ) was significantly higher than the mean score for those from schools that did not ( $M = 2.45$ ,  $SD = 0.60$ ), with a small effect size ( $d = -0.20$ ).

Table 5  
Results of independent sample t-test of significant differences in knowledge-related variables by implementation of IE

Variables	Not implemented		Implemented		<i>t</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Knowledge of UNCRPD	2.76	0.56	2.86	0.57	-2.97**	-0.19
Knowledge of PECD	2.46	0.61	2.60	0.59	-3.74***	-0.24
Knowledge of PIE	2.42	0.61	2.67	0.55	-6.95***	-0.44
Knowledge of IE	2.41	0.63	2.72	0.54	-8.29***	-0.52
Knowledge of special education	2.30	0.65	2.33	0.63	-0.76	-0.05
Knowledge of disability	2.45	0.60	2.57	0.64	-3.12**	-0.20
Knowledge of IEPs	2.35	0.64	2.39	0.65	-0.79	-0.05

Note. \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; *d* = Effect size according to Cohen (1988)

## DISCUSSION

### Experience for inclusive practices

This study revealed that, among all experience domains, Cambodian teachers reported the most limited experience with IET, even though they all taught in schools with a history of inclusion, and nearly half (45%) were teaching SWDs. In line with this, Agbenyega and Klibthong (2014) investigated knowledge related to IE among early childhood teachers in Thailand, discovering that a significant majority of their participants (65.7%) had no experience with IET in special education or IE, even though they were teaching SWDs in regular early childhood classrooms. Similarly, Maria (2013) identified that Romanian teachers perceived their pre-service and in-service IET as 'insufficient', leaving them ill-equipped to understand, apply, and implement inclusive practices.

The present study discovered that teachers who worked in schools implementing IE programmes reported significantly higher levels of experience in IET, teaching SWDs, and collaboration compared to those in schools without such programmes. The findings highlight positive effects of IE programmes on teachers' experience for inclusive practices and the development of the IE system at school level, aligning with various previous studies (e.g. Minke et al., 1996; Scanlon et al., 2022; Shah et al., 2016; Wray et al., 2022). For instance, Minke et al. (1996) investigated teachers' experiences with inclusive classrooms including students with mild disabilities. Three different groups of regular and special education teachers were included for the observation. The study found that regular and special education teachers in inclusive classrooms demonstrated more positive attitudes and higher levels of self-efficacy to including SWDs compared to those in traditional classrooms. They also reported higher levels of competence and satisfaction in teaching SWDs in inclusive classrooms, where 'protected resources' were available to support inclusion. Teaching experience in inclusive settings not only enhances teachers' attitudes towards inclusion but also their self-efficacy in implementing inclusive practices (Wray et al., 2022). Similarly, Shah et al. (2016) noted that teachers with extensive teaching experience but limited experience of teaching SWDs expressed greater concerns than their counterparts who had more of such experience.

**Knowledge for inclusive practices**

In this study, most teachers reported their knowledge regarding policies and other aspects of IE as either 'poor' or 'average', despite around 30% receiving IET and 45% having experience in teaching SWDs. Teachers from schools implementing IE had significantly higher levels of knowledge of IE-related policies, IE, and disability than their counterparts.

Agbenyega and Klibthong (2014) also observed similar trends in Thailand. They discovered that despite 44% of their participants having taught SWDs, the majority (72%) indicated that their overall knowledge of IE was inadequate. Their knowledge with various policies such as UNCRPD, was limited (20.6%), and their knowledge of Thai PIE was rated as 'low' ( $M = 2.87$ ,  $SD = 1.05$ ). Additionally, their knowledge of IEPs and teaching strategies for children with sensory disabilities ranked the lowest among the 13 items. In Thailand, teachers' poor knowledge of IE was strongly associated with the quality of the training, which lacked practical inclusive practices (Agbenyega & Klibthong, 2014). Moreover, a study conducted in Romania evaluated teachers' perceptions, knowledge, and behaviour in IE. It found that most teachers did not offer accurate responses concerning the definition of the IE concept and reported having very limited knowledge about IE and disability. This lack of knowledge resulted in teachers' rejection, stereotypes, and prejudice towards SWDs (Maria, 2013).

**IMPLICATIONS**

The current study offers crucial insights into the knowledge and experience of teachers regarding inclusion and the effects of IE implementation at the school level. Despite limited access to training, teachers in schools implementing IE programmes had significantly greater knowledge and experience related to IE than those in schools not implementing such programmes. This underscores the need for improved policies and teacher training for both pre-service and in-service teachers to enhance Cambodian teachers' readiness for implementing inclusive practices.

In line with Agbenyega and Klibthong (2014), the concept of PIE prevails in Cambodia, focusing on specialised curricula and conditional inclusion for students with SEN and disabilities (UNICEF, 2020). These policies lack effective dissemination and on-site support, hindering the sustainability and effectiveness of knowledge transfer (King, 2018). The top-down approach to policy implementation without considering teachers' capacity in special needs and the local context and culture creates concerns among teachers about their inadequate pedagogical knowledge and skills in including SWDs in regular classrooms (Kalyanpur, 2016). To address this, it is crucial for stakeholders to consider local understanding on disability and integrate them into policies and programmes rather than imposing concepts from Global North countries (Kalyanpur, 2016). A systematic policy dissemination paradigm with on-site support should be established (King, 2018; Kuroda et al., 2017).

It is imperative to increase training opportunities to improve teachers' readiness regarding knowledge and skills for inclusive practices. IET should be emphasised within the continuous professional development framework and action plan (CPDFAP)

of MoEYS (see MoEYS, 2021). Action research can also help teachers reflect on their practices and understand the learning difficulties that SWDs face. It leads teachers to become reflective practitioners for effective inclusive practices (Finkelstein et al., 2021). In 2020, MoEYS firstly developed an action research guidebook for all educational staff, especially teachers, to use as a self-learning resource to assist them in conducting classroom and small-scale research. It enables them to reflect on their own practices, improve students' learning outcomes by responding to their SEN, and bring about positive changes to the school system (see MoEYS, 2020). This guidebook could serve as an additional resource for IET and should be considered for inclusion in the training module.

Training in IE or special needs is considered a critical determinant of the success or failure of the development of the IE system. However, numerous studies have indicated that such training falls short in adequately preparing teachers for inclusive classroom settings, particularly in regions of the Global South where resource limitations pose significant barriers to implement inclusive practices (see Bhatnagar & Das, 2014; Loreman et al., 2013; Malinen et al., 2013). The current training system in Cambodia falls short in adequately preparing pre-service and in-service teachers to teach in inclusive settings, especially in resource-constrained regions like Cambodia, where teachers lack access to effective training and perceive their knowledge and skills as 'inadequate' (Kalyanpur, 2011; Kuroda et al., 2017; Ravet & Mtika, 2021). The training primarily emphasises theory rather than practical inclusive practices and lacks on-site support (Kuroda et al., 2017). The teaching practice does not include hands-on experience in inclusive classrooms. The short duration of the training, limited knowledge among teacher trainers themselves, and ineffective facilitation of the training are the main barriers to preparing teachers for effective inclusive practices (Kalyanpur, 2011). For instance, in pre-service training programmes, a topic on the basic concept of IE is allocated only six hours of in-class instruction (MoEYS, 2017a, 2017b), while in-service training lasts only about two to five days, with an emphasis on a broad variety of topics without practical inclusive practice components (Kalyanpur, 2011). This led to the findings of the current study, where 60.41% of participants reported their IET as 'inadequate', and 11.11% indicated it as 'completely inadequate'. This discrepancy is attributed to implementing policies and teacher education, which have limited reach, do not promote effective inclusive practices, and offer minimal practical skills and knowledge in IE (Agbenyega & Klibthong, 2014). To facilitate the inclusion of SWDs in regular classrooms, teachers require IET and specialised training programmes in disabilities (Maria, 2013). The training needs to provide practical skills, hands-on experiences in inclusive classrooms, and knowledge of disabilities for inclusion, moving beyond theoretical concepts (Luştreă, 2023; Yada & Alnahdi, 2021). The course on IE should be made mandatory for teacher education at all levels in Cambodia.

Furthermore, the study suggests that expanding IE programmes should be a priority to enhance teachers' knowledge and skills for inclusive practices. However, there is a concerning trend that the most recent education congress report from 2022 indicated a greater expansion of integrated education programmes compared to IE programmes at primary and secondary schools recently (MoEYS, 2022). As Cambodia is moving

forwards to achieving Agenda 2030, these findings highlight the necessity for expanding IE programmes over integrated education programmes. Though simpler to implement, integrated education programmes may not promote interaction between students with and without disabilities, and teachers are not trained in special education (Kalyanpur, 2011). Moreover, it is also essential to foster a sense of shared responsibility among teachers, promote collaborative support, involve school leadership teams, and provide access to resources to develop an inclusive culture and promote inclusive practices (Pijl, 2010; Valdés & Gómez-Hurtado, 2023). Overall, the findings emphasise the need for comprehensive policy changes and teacher training improvements to support IE in Cambodia.

### **CONCLUSION**

This study revealed that while some teachers had experienced IET and worked in schools implementing IE programmes, their knowledge, and experience regarding IE remained very limited. Their knowledge and experience were significantly varied based on the implementation of IE programmes. Teachers from primary schools with inclusive education programmes had significantly higher levels of experience in IET, teaching SWDs, and collaborative efforts than those from schools without such programmes. Moreover, they demonstrated significantly greater knowledge of UNCRPD, PECD, PIE, IE, and disability than their counterparts. To enhance the knowledge and experience of Cambodian teachers in implementing inclusive practices, the study underscores the necessity for comprehensive policy changes, increased opportunities for training, and the mandatory inclusion of IE courses in teacher education. It also emphasises the importance of training that focuses more on practical skills and knowledge for inclusive practices rather than theoretical aspects. The training should incorporate on-site support, taking into account teachers' capabilities in addressing special needs, as well as understanding the local context and culture. Integration of action research methodologies should be prioritised, fostering a practical approach to problem-solving. A key recommendation is to significantly extend the duration of training programmes to ensure a more in-depth coverage of content and skill development. Adequate resources and having well-qualified teacher trainers equipped with substantial knowledge and practical experience in IE is indispensable to the effectiveness of the training programmes. It calls for fostering shared responsibility among teachers and collaborative support to promote inclusive practices and cultivate an inclusive culture in Cambodian schools. These implications may also be relevant to countries in the Global South with similar IE statuses.

### **LIMITATIONS**

This study has certain limitations. It aimed to generalise findings on the knowledge and experience of in-service teachers in primary level. Future research should explore these aspects among teachers at different educational levels. The study investigated variations in teachers' knowledge and experience based on schools with and without IE programmes. Future studies may examine additional factors that could significantly impact their knowledge and experience, as well as explore how these aspects shape teachers' inclusive practices in regular classrooms. Moreover, this study did not focus

on a specific disability. Future research may consider delving into teachers' knowledge, experience, and challenges of implementing inclusive practices for students with specific disabilities in the context of Cambodia.

### CONFLICT OF INTEREST

We declare no competing interests.

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