Pre-service teachers' self-efficacy in implementing inclusive education in Hong Kong: the roles of attitudes, sentiments, and concerns

Article

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Abstract

According to the Hong Kong Education Bureau, the number of students with special education needs (SEN) has been on the rise. In order to cope with an increasing demand for inclusive education, professional training programs aiming for pre-service teachers to educate students with SEN have increased locally. Guided by the theory of planned behaviour, this study aims to investigate the relations between Chinese pre-service teachers' views (i.e., attitudes, sentiments, and concerns) and self-efficacy in implementing inclusive education in Hong Kong. A total of 94 Chinese pre-service teachers (M_{age} = 21.55; SD_{age} = 1.16) were recruited at a local public university to complete an online questionnaire. Controlling for age, teaching experience, and number of special education courses taken, differential effects were found between pre-service teachers' views and self-efficacy. Specifically, teachers' positive attitudes toward inclusive education were related to their greater self-efficacy in implementing inclusive instructions and managing the behaviors of students with SEN. Teachers' fewer sentiments about inclusive education were related to their greater self-efficacy in collaborating with parents and other professionals. Fewer concerns about their own knowledge, workload, and overall feasibility were also related to their greater self-efficacy in collaboration and behavioural management. These findings broaden the literature by highlighting the role of pre-service teachers' self-efficacy in implementing inclusive education. The study also informs policy makers the need to strengthen teachers' self-efficacy by reducing practical barriers and increasing their positive attitudes towards inclusion.

Keywords: inclusive education, self-efficacy, attitudes, concerns, sentiments, pre-service teachers

Pre-service Teachers' Self-efficacy in Implementing Inclusive Education in Hong Kong: The Roles of Attitudes, Sentiments, and Concerns

According to the Hong Kong Education Bureau (2015, 2017), the number of students with special education needs (SEN) has been on the rise. As such, professional training programs aiming for teachers to educate students with SEN have increased locally. In spite of the provision of special education courses, teachers continue to express concerns and lack confidence in tackling with the needs of students with SEN in Hong Kong (Forlin & Lian, 2008; Hui, 2000; Hong Kong Federation of Education Workers, 2016). There concerns are due, potentially, to insufficient training, heavy workload, and low motivation in implementing relevant interventions (Yuen, Westwood, & Wong, 2005). In addition, the severity of students' disabilities and the limited support and resources available to teachers also contribute to their negative attitudes toward inclusion (Bradshaw & Mundia, 2006). Pre-service teachers' positive attitudes do emerge upon taking an introductory or compulsory course, workshop, or short-term training on topics related to SEN (e.g., Campbell, Gilmore, & Cuskelly, 2003; Sharma, Forlin, & Loreman, 2008; Yuen, 2015).

Previous research suggested that pre-service teachers' positive attitudes can be cultivated during undergraduate studies, when the undergraduates are teachers in training (Forlin, Loreman, Sharma, & Earle, 2009). If, however, pre-service teachers' negative attitudes towards SEN are deeply rooted, then they cannot be changed easily after graduation (Loreman, Sharma, Forlin, & Earle, 2005). As such, chief among the reasons of this study concerns factors affecting pre-service teachers' self-efficacy in implementing an inclusive classroom.

According to social cognitive theory (Bandura, 1977; 1982), self-efficacy refers to individuals' beliefs in their capability to exercise control over their motivation, behavior, and social environment. Teachers' self-efficacy, in particular, refers to beliefs in their capability in

performing or completing a teaching task in a given situation, with a specific level of quality (Dellinger, Bobbett, Olivier, & Ellett, 2008). Pre-service teachers' views towards inclusive education may be crucial to their self-efficacy in an academic setting (Pajares, 1996). According to the theory of planned behaviour (Ajzen, 1991), "attitudes and behaviour intention" are indicators that explain individuals' actual behaviours. That is, whether an action can be carried out properly and with confidence depends to a large extent on the doer's attitudes. In other words, changing one's attitudes and intention means an ultimate change in one's behaviour (Ajzen, 1985). Applying the theory of planned behaviour to the present study, pre-service teachers' specific views and attitudes towards inclusive education may affect their self-efficacy in teaching, i.e., the degree of confidence in their capability of lifting students' motivation and performance in classroom learning (Guskey & Passaro, 1994). In order to successfully implement an inclusive learning environment, the major criteria are that for all students in class, their learning needs are fulfilled and their safety is ensured (Nougaret, Scruggs, & Mastropieri, 2005).

Previous research suggested that teachers' attitudes in classroom management are positively associated with their self-efficacy (Meijer & Foster, 1988; Forlin, Cedillo, Romero-Contreras, Fletcher, & Hernández, 2010). However, little has been done in the Chinese context to examine the specific effects of pre-service teachers' (a) attitudes toward inclusive education, (b) sentiments about inclusive education and students with SEN, and (c) concerns about such issues as professional knowledge, workload, and feasibility on self-efficacy in implementing an inclusive classroom. The present study aims to fill the research gap by investigating the relations between pre-service teachers' views and self-efficacy towards inclusion in Hong Kong. As previous research suggested that teachers' age, teaching experience, and knowledge served as covariates of self-efficacy (Klassen & Chiu, 2010;

Leyser, Zeiger, & Romi, 2011; Schwab, Hellmich, & Görel, 2017), they were included as control variables in this study.

Method

Participants

Prior to data collection, we computed an a-prior sample size for multiple regression. Assuming that the power = .8, with 6 predictors, an effect size of .15, and an alpha of .05, the required sample size was 97. Based on the required sample size, a total 94 participants were recruited over a three-month data collection period. Participants were Chinese pre-service teachers from Hong Kong ranging from 18 to 23 years of age. These participants were recruited via convenience sampling at a local public university via social media and online forums. Eligibility criteria include (a) an age of 18 years or above at the time of participation, (b) enrolment in a Bachelor of Education programme, and (c) proficiency in Chinese. Prior to the conduct of the study, ethical approval was sought from the Research Ethics Committee at the university. Participants' informed consent was sought prior to data collection via an online questionnaire.

Measure

Demographic data. Participants provided information about their age, teaching experience by the number of days they had taught in class, and training in inclusive education by the number of courses they had taken.

Teachers' Views toward Inclusive Education. The 15-item Sentiments, Attitudes and Concerns about Inclusive Education Revised (SACIE-R; Forlin, Earle, Loreman, & Sharma, 2011) was used to measure pre-service teachers' attitudes on three subscales, including the Sentiments subscale (e.g., "I find it difficult to overcome my initial shock when meeting people with severe physical disabilities"), the Attitude subscale (e.g., "Students who need an individualized academic program should be in regular classes"), and the Concerns subscale

(e.g., "I am concerned that I do not have the knowledge and skills required to teach students with disabilities"), on a 4-point Likert scale (*1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree*). The measure was translated from English to Chinese following the back-translation procedures (Brislin, 1970). Discrepancies were resolved by the authors of this study. Composite scores were calculated for each subscale, with higher scores indicating more positive attitudes towards the inclusive education, fewer sentiments, and fewer concerns toward inclusive education. The reliability of the subscales were acceptable, with Cronbach's alpha = .79 for the Sentiments subscale, .62 for the Attitude subscale, and .76 for the Concerns subscale.

Self-efficacy. The 18-item Teacher Efficacy for Inclusive Practices Scale (TEIP; Sharma, Loreman, & Forlin, 2012) was used to measure pre-service teachers' self-efficacy in three subscales including Efficacy in Using Inclusive Instructions (e.g., "I can use a variety of assessment strategies, such as portfolio assessment, modified tests, and performance-based assessment"), Efficacy in Collaboration [e.g., "I can collaborate with other professionals (e.g. itinerant teachers or speech pathologists) in designing educational plans for students with disabilities"] and Efficacy in Managing Behaviour (e.g., "I am confident in my ability to prevent disruptive behaviour in the classroom before it occurs") on a 6-point Likert scale (*1 = strongly disagree, 2 = disagree, 3 = disagree somewhat, 4 = agree somewhat, 5 = agree, and 6 = strongly agree*). The measure was translated from English to Chinese following the back-translation procedures (Brislin, 1970). Discrepancies were resolved by the authors of this study. Composite scores were calculated for each subscale, such that higher scores indicated greater self-efficacy in implementing inclusion in regular classrooms. The reliability of the subscales were acceptable, with Cronbach's alpha = .79 for Efficacy in Using Inclusive Instructions, .75 for Efficacy in Collaboration, and .76 for Efficacy in Managing Behavior.

Data Analysis

Descriptive statistics, zero-order correlations, and hierarchical linear regression analyses were conducted using IBM SPSS Statistics 24. Concerning the hierarchical regression models, demographic data including teachers' age and teaching experience were entered in the first block as control variables. Next, teachers' training in inclusive education were entered in the second block. Finally, teachers' views toward inclusion, including their attitudes, sentiments, and concerns, were entered in the third block to predict their self-efficacy toward inclusive instructions, collaboration, and behavioral management, respectively.

Results

Participants reported an average age of 21.55 years (*SD* = 1.16), an average teaching experience of 32.36 days (*SD* = 51.51), and an average number of two courses (*SD* = 1.80) taken concerning inclusive education, with approximately 39 hours per course. Table 1 indicates the means, *SD*s, and zero-order correlations of the variables under study. Given that participants responded to all of the study items, there was no missing data in the dataset.

[Insert Table 1 near here]

Tables 2-4 indicated the findings from three hierarchical linear regression models, with pre-service teachers' demographic variables as covariates and views towards inclusion as predictors of self-efficacy towards inclusion. The first model explained 41.73% of the variance in pre-service teachers' efficacy in using inclusive instructions, $F(6, 87) = 10.38$, $p < .001$. Notably, greater knowledge about inclusive education, as reflected by the number of relevant courses taken by pre-service teachers, and more positive attitudes towards inclusive education, were significantly associated with teachers' greater self-efficacy in giving instructions (βs = .34 and .29, respectively, ps < .01).

[Insert Table 2 near here]

The second model explained 41.50% of the variance in pre-service teachers' efficacy in collaboration [$F(6, 87) = 10.29$, $p < .001$]. Specifically, greater knowledge about inclusive education ($\beta = .21$, $p < 0.05$), more teaching experience ($\beta = .32$, $p < .01$), and fewer concerns about teaching students with SEN ($\beta = -.21$, $p < .05$) were significantly associated with teachers' self-efficacy in collaborating with parents and other professionals.

[Insert Table 3 near here]

The third model explained 45.04% of the variance in pre-service teachers' efficacy in behavioural management [$F(6, 87) = 11.88$, $p < .001$]. Pre-service teachers who had more teaching experience ($\beta = .45$, $p < .001$), more positive attitudes ($\beta = .21$, $p < .05$), fewer sentiments ($\beta = -.20$, $p < .05$), and fewer concerns ($\beta = -.19$, $p < .05$) reported greater self-efficacy in managing students' behaviours in inclusive classrooms.

[Insert Table 4 near here]

Discussion

Inclusion of students with SEN in regular classrooms has been implemented in Hong Kong for over a decade (Chong, Forlin & Lan, 2007; Sharma, Forlin, Loreman, & Earle, 2006; Forlin, Sharma & Loreman, 2007; Panel on Education Subcommittee on Integrated Education, 2014). This study aims to identify the relations between Chinese pre-service teachers' views (i.e., attitudes, sentiments, and concerns) and self-efficacy in implementing inclusive education. Controlling for teachers' age, teaching experience, and training received in inclusive education, differential effects were found between pre-service teachers' views and self-efficacy. Notably, teachers' positive attitudes were related to their greater self-efficacy in implementing inclusive instructions and behavioural management. In addition, teachers' fewer sentiments were related to greater self-efficacy in collaborating with other professionals. Finally, teachers' fewer concerns about inclusion were crucial to both greater self-efficacy in collaboration and behavioural management.

Teachers play a crucial role in carrying out educational reform (Forlin et al., 2010). The effectiveness of applying inclusion in classrooms depends on teachers' attitudes and efficacy in performing instructional skills, managing students' behaviours, and cooperating with other professionals (Avramidis & Norwich, 2002). Consistent with the theory of planned behaviour (Ajzen, 1991), the present findings suggested that pre-service teachers' positive attitudes were associated with their greater self-efficacy in implementing inclusive instructions and managing classroom behaviours. These findings also resonated with previous research conducted in Western societies showing that pre-service and in-service teachers' attitudes in classroom management were crucial to their self-efficacy (Meijer & Foster, 1988; Forlin et al., 2010).

Interestingly, teachers' concerns about their workload, knowledge, and feasibility in implementing inclusive education emerged as the only predictor of self-efficacy in collaboration. The findings echoed with previous work conducted in Hong Kong that identified teachers' long working hours, heavy workload, and lack of resources as major obstacles to implementing inclusive practices in educational settings (Leung & Mak, 2010; Poon-McBrayer & Wong, 2013; Yuen et al., 2005). The present findings are informative to policy makers and other stakeholders in reducing teachers' practical concerns to enhance the collaborative efforts among teaching, health, social work, and other relevant professionals. Not surprisingly, pre-service teachers' attitudes, sentiments, and concerns all contributed to teachers' self-efficacy in managing behaviours in an inclusive classroom. These findings highlighted teachers' negative views, concerns, and sentiments as important barriers to their self-efficacy in managing students' behaviours and must, therefore, be mitigated.

In addition to teachers' views, differential findings also revealed that teaching experience and knowledge about SEN and inclusive education were positively associated with different aspects of self-efficacy (see also Leyser et al., 2011; Schwab et al., 2017). These

findings demonstrated the utility of professional training programs, including courses related to inclusive education as well as practicum training, provided for pre-service teachers in enhancing their self-efficacy.

Limitations and Future Directions

The study has several limitations that merit consideration. First of all, although we included a direct measure of self-efficacy, we did not measure pre-service teachers' actual behaviours of implementing inclusive education. However, given pre-service teachers' limited classroom teaching experience (i.e., an average of 32.36 days), we encountered difficulties in gathering this piece of important information. Future studies should include behavioural and observational measures to more fully investigate the associations guided by the theory of planned behaviour (Ajzen, 1991). Second, the present study used only self-report measures. Future studies may utilize a multi-informant and multi-method approach, such as self and peer questionnaire reports, observational measures, and physiological measures, to increase objectivity. Third, due to the cross-sectional nature of this correlational study, the present findings cannot infer directionality and causation. Future research is necessary to utilize an experimental and/or longitudinal approach to confirm the findings. Finally, the attitude subscale of the SACIE-R had a Cronbach's alpha of .62. As such, the findings must be interpreted with caution and supplemented with additional research.

Notwithstanding the above limitations, the present study broadens the literature by highlighting Chinese pre-service teachers' attitudes, sentiments, and concerns as predictors of self-efficacy in implementing inclusive education practices. These findings serve as important information to policy makers, practitioners, and other stakeholders in strengthening teachers' self-efficacy in working in an inclusive setting. Ultimately, the goal is for educators to provide quality education and professional teaching for students with and without SEN across settings.

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Declaration of Interest

The authors declare no conflict of interest.

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Table 1

Correlation and Descriptive Statistics of All Study Variables

	1	2	3	4	5	6	7	8	9
1. Age	—								
2. Teaching experience (by days)	.24*	—							
3. Training received in inclusive education (by courses)	.27**	.59***	—						
4. Attitudes about inclusion	-.22*	-.41***	-.23*	—					
5. Sentiments about inclusion	-.19	-.41***	-.38***	-.31**	—				
6. Concerns about inclusion	-.02	-.13	-.11	-.29**	.18	—			
7. Efficacy in using inclusive instructions	.29**	.42***	.52***	.07	-.32**	-.28**	—		
8. Efficacy in collaboration	.21*	.50***	.47***	-.03	-.39***	-.36***	.81***	—	
9. Efficacy in managing students' behaviours	.17	.55***	.44***	-.01	-.41***	-.29**	.76***	.80***	—
Means	21.55	32.36	1.98	4.19	4.15	4.04	2.52	2.22	2.78
Standard deviations	1.16	51.51	1.80	.60	.59	.62	.41	.60	.39

Note. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 2

Hierarchical Regression Models Concerning Pre-service Teachers Self-efficacy in Implementing Inclusive Instructions

Variables	*Block 1*			*Block 2*			*Block 3*		
	β	*B* (*SE*)	95% *CI* for *B*	*β*	*B* (*SE*)	95% *CI* for *B*	*β*	*B* (*SE*)	95% *CI* for *B*
Demographics									
Age	.20*	.31 (.15)	.01, .61	.15	.23 (.14)	-.01, .51	.18	.27 (.14)	.01, .54
Teaching experience (by days)	.37***	.00 (.00)	.00, .01	.16	.00 (.00)	.00, .00	.22	.00 (.00)	.00, .01
Training in inclusive education (by courses)				.39**	.13 (.04)	.05, .20	.34**	.12 (.04)	.05, .19
Views towards inclusion									
Attitudes							.29**	.44 (.15)	.14, .73
Sentiments							-.14	-.14 (.10)	-.33, .05
Concerns							-.10	-.16 (.14)	-.44, .13
Adjusted R^2	.20			.29			.38		
R^2	.21			.31			.42		
R^2 change	.21			.10			.11		
D.f.	2/91			3/90			6/87		
F Change	12.41***			12.34**			5.39**		

Note. *$p < .05$; **$p < .01$; ***$p < .001$

Table 3

Hierarchical Regression Models Concerning Pre-service Teachers Self-efficacy in Collaborating with Parents and other Professionals

Variables	*Block 1*			*Block 2*			*Block 3*		
	β	*B* (*SE*)	95% *CI* for *B*	*β*	*B* (*SE*)	95% *CI* for *B*	*β*	*B* (*SE*)	95% *CI* for *B*
Demographics									
Age	.09	.14 (.14)	-.14, .42	.06	.09 (.14)	-.20, .36	.07	.10 (.13)	-.16, .37
Teaching experience (by days)	.48***	.01 (.00)	.00, .01	.33**	.00 (.00)	.00, .01	.32**	.00 (.00)	.00, .01
Training in inclusive education (by courses)				.26*	.09 (.04)	.01, .16	.21*	.07 (.04)	.00, .14
Views towards inclusion									
Attitudes							.16	.24 (.15)	.00, .14
Sentiments							-.18	-.18 (.09)	-.36, .01
Concerns							-.21*	-.32 (.14)	-.60, -.04
Adjusted R^2		.24			.28			.38	
R^2		.26			.30			.42	
R^2 change		.26			.04			.12	
D.f.		2/91			3/90			6/87	
F Change		15.69***			5.64*			5.69**	

Note. *$p < .05$; **$p < .01$; ***$p < .001$

Table 4

Hierarchical Regression Models Concerning Pre-service Teachers Self-efficacy in Managing Students' Behaviours

Variables	*Block 1*			*Block 2*			*Block 3*		
	β	*B* (*SE*)	95% *CI* for *B*	*β*	*B* (*SE*)	95% *CI* for *B*	*β*	*B* (*SE*)	95% *CI* for *B*
Demographics									
Age	.04	.06 (.14)	-.23, .35	.02	.02 (.15)	-.26, .31	.03	.05 (.13)	-.22, .32
Teaching experience (by days)	.54***	.01 (.00)	.00, .01	.45***	.01 (.00)	.00, .01	.45***	.01 (.00)	.00, .01
Training in inclusive education (by courses)				.17	.06 (.04)	-.02, .13	.11	.04 (.04)	-.03, .11
Views towards inclusion									
Attitudes							.21*	.32 (.15)	.02, .61
Sentiments							-.20*	-.21 (.10)	-.40, -.02
Concerns							-.19*	-.31 (.14)	-.59, -.03
Adjusted R^2		.29			.30			.41	
R^2		.30			.32			.45	
R^2 change		.30			.02			.13	
D.f.		2/91			3/90			6/87	
F Change		19.70***			2.35			6.89***	

Note. *$p < .05$; **$p < .01$; ***$p < .001$