

DOCTORAL DISSERTATION

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Inclusive education from teachers' perspective

Examining pre- and in-service teachers' self-efficacy and attitudes in mainland China



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and attitudes in mainland China*

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Cover picture: "Kauniit perheet (Beautiful families)" by Pihla Lehtivuori

“The quality of an educational system is contingent upon the efficiency of the teaching staff. For this reason the training of qualified and competent educators constitutes one of the essential tasks to be undertaken in the application of any public education policy.”

– League of Nations’ report *The Reorganisation of Education in China* (1932, p. 118)

ABSTRACT:

Governments worldwide have set the goal of including students with disabilities in regular classrooms of mainstream schools. This dissertation focuses on in-service and pre-service teachers' perceived self-efficacy and attitudes related to inclusive education by using three separate quantitative datasets. The first sample was collected in 2007 from 523 students via internet and in two normal university campus areas in Beijing, China. The second sample was gathered in 2010 and consists of the responses of 554 Chinese normal university students and students of a special education college. The third sample was collected in 2010–2011 from 451 Chinese, 855 Finnish, and 605 South African in-service teachers.

Based on the analysis, the teacher self-efficacy for inclusive practices appears to have a multidimensional structure. In this dissertation, teacher self-efficacy was divided into three factors – *Efficacy in inclusive instruction*, *Efficacy in collaboration*, and *Efficacy in managing student behaviour* – that could be confirmed in Chinese, Finnish, and South African data. In all three countries, the level of self-efficacy for inclusive practices was significantly explained by the teacher's previous experience in teaching students with disabilities.

Participants with a higher level of experience in teaching students with disabilities also had more positive attitudes towards inclusive education, but on average the perceptions were close to the mid-point of the measurement scale. This indicates that, as a group, the participants were not very extreme in their support for or opposition to inclusion. Participants recommended the most inclusive environment for students with visual impairment and the least inclusive environment for students with intellectual disability. The severity of disability had a consistent effect on participants' views so that the more restrictive environment was preferred for students with severe levels of disability.

Teachers' self-efficacy and attitudes towards inclusive education had a relatively strong positive connection. Among the different self-efficacy dimensions, efficacy in collaboration was the best predictor of their attitudes.

Keywords: Teacher, inclusive education, self-efficacy, attitude, China

TIIVISTELMÄ:

Hallitukset ympäri maailmaa ovat asettaneet tavoitteekseen järjestää vammaisten oppilaiden koulutus yleisopetuksen koulujen tavallisissa luokissa. Tämä väitöskirja keskittyy tutkimaan opettajien ja opettajaopiskelijoiden inklusiiviseen opetukseen liittyvää koettua minäpystyvyyttä ja asenteita kolmea erillistä määrällistä aineistoa hyödyntäen. Ensimmäinen aineisto kerättiin 523 opiskelijalta vuonna 2007 internetin välityksellä ja kahdella Pekingissä sijaitsevan normaaliyliopiston kampuksella. Toinen aineisto kerättiin vuonna 2010 ja se koostuu 554 kiinalaisen normaaliyliopistossa tai erityisopetuskorkeakoulussa opiskelevan henkilön vastauksista. Kolmas otos, joka kerättiin vuosina 2010–2011, 451 kiinalaiselta, 855 suomalaiselta ja 605 eteläafrikkalaiselta opettajalta.

Analyysin perusteella inklusiiviseen opetukseen liittyvällä opettajaminäpystyvyydellä näyttää olevan moniulotteinen rakenne. Tässä väitöskirjassa opettajaminäpystyvyys jaettiin kolmeen faktoriin, jotka olivat pystyvyys inklusiivisessa opettamisessa, pystyvyys yhteistyön tekemisessä ja pystyvyys oppilaiden käyttäytymisen hallinnassa. Nämä faktorit onnistuttiin vahvistamaan sekä kiinalaisessa, suomalaisessa että eteläafrikkalaisessa aineistossa. Kaikissa kolmessa maassa aiempi kokemus vammaisten oppilaiden opettamisesta selitti merkittävästi opettajien minäpystyvyyden tasoa.

Osallistujilla, joilla oli runsaammin kokemusta vammaisten oppilaiden opettamisesta, oli muita positiivisempi asenne inklusiivista opetusta kohtaan. Keskimäärin osallistujien asenteet olivat kuitenkin käytetyn mittarin teoreettisen vaihteluvälin keskellä. Tämä viittaa siihen, että ryhmätasolla tarkasteltuna tutkimuksen osallistujat eivät vastustaneet tai tukeneet kovin voimakkaasti inklusiivista opetusta. Osallistujat suosittelivat kaikkein inklusiivisinta oppimisympäristöä näkövammaisille oppilaille ja vähinten inklusiivista ympäristöä kehitysvammaisille oppilaille. Oppilaan vamman vaikeusasteella on johdonmukainen yhteys tutkimuksen osallistujien näkemyksiin siten, että vakavammin vammaisten oppilaiden kohdalla suosittiin rajoittavampia oppimisympäristöjä.

Opettajaminäpystyvyydellä ja inklusiiviseen opetukseen kohdistuvilla asenteilla oli varsin voimakas positiivinen yhteys. Minäpystyvyyden eri ulottuvuuksista pystyvyys yhteistyön tekemisessä ennusti parhaiten asenteita.

Avainsanat: Opettaja, inklusiivinen opetus, minäpystyvyys, asenne, Kiina

Preface

For me, earning a doctorate was not a childhood dream or the greatest aim of my adulthood. How, then, did I end up in this situation where I am writing the final lines of my Doctoral dissertation? In retrospect, I can come up with four good explanations, two of which are related to my studies while the other two are more private in nature.

The first explanation is the half a year I spent as an exchange student in the tropical island of Hainan. During my time there, I learned Mandarin and became nearly obsessed with knowing more about everything related to China.

The second thing to blame is my Master's thesis. During the final year of my teacher studies, I enjoyed the whole process of carrying out a small, independent research project. After graduation from the University of Jyväskylä, I wanted to maintain a connection to the university world and applied for the right to begin Doctoral studies in a place that was then called the University of Joensuu where my Master's thesis supervisor Hannu Savolainen had started to work as a Professor a few years earlier.

The third reason for my writing these lines is our first daughter Pihla's early talent for taking long and undisturbed naps. During my parental leave in 2009, while she was sleeping twice a day, I developed a habit of entertaining myself with writing grant applications. In summer 2009, I learned that two of the applications had paid off and I had secured myself four years' funding for becoming a Doctor of Education. Because I did not yet have a big mortgage or other major financial commitments, it felt like a decent opportunity to leave my permanent teaching job and start working as a full-time researcher.

The fourth reason for being in this situation is the birth of our second daughter Lumi. While my wife Heli was on maternity leave, we could all move together to Beijing and spend there the six months that I could use for collecting research data and gaining personal experience from my research context.

I would like to thank my supervisor Professor Hannu Savolainen for guidance and support. I wish to express my gratitude to Professor Xu Jiacheng for enabling me to collect data in Beijing and Chongqing as well as introducing me to the local special and inclusive education scene. I am also grateful to Professor Petra Engelbrecht, Doctor Mirna Nel, Professor Norma Nel, and Mr. Dan Tlale for co-writing one article and collecting the South African data that was used in this dissertation.

In addition, I am thankful to Professor Markku Jahnukainen and Professor Deng Meng for examining this Doctoral dissertation, to my fellow Doctoral students at the University of Eastern Finland, to Li Niu, Zhang Ling, and Wang Xin for their work in translating the questionnaires, to Sun Ying, Wei Shouhong, Liu Hong, and Meng Fanhui for their help during visits in Beijing, to Professor Chris Forlin and Professor Umesh Sharma for letting me use their scales, to Professor Eija Kärnä for writing statements to my grant applications, to Pirjo and Toivo Kontio for providing a place to stay during my visits to Joensuu, and to the board members and students of the Doctoral Program of

Contemporary Asian Studies for the lively seminars we had together. Finally, I want to thank my family, especially my wife Heli and our two daughters Lumi and Pihla, for your love and support.

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In Jyväskylä, 20st of May 2013

Olli-Pekka Malinen

List of publications

This dissertation is based mostly on the work contained in the following papers, which will hereafter be referenced by their Roman numerals.

- I Malinen, O., & Savolainen, H. (2008). Inclusion in the East: Chinese students' attitudes towards inclusive education. *International Journal of Special Education*, 28(3), 101–109.
- II Malinen, O., Savolainen, H., & Xu J. (2012). Beijing in-service teachers' self-efficacy and attitudes towards inclusive education. *Teaching and Teacher Education*, 28(4), 526–534.
- III Malinen, O., Savolainen, H., & Xu J. (in press). Dimensions of teacher self-efficacy for inclusive practices among mainland Chinese pre-service teachers. *Journal of International Special Needs Education*.
- IV Malinen, O., Savolainen, H., Engelbrecht, P., Xu, J., Nel, M., Nel, N., & Tlale, D. (2013). Exploring teacher self-efficacy for inclusive practices in three diverse countries. *Teaching and Teacher Education*, 33, 34–44.

Author's contribution

In the first, second, and third article, Olli-Pekka Malinen designed the questionnaire, was responsible for the data collection, did the data analysis, and took the main responsibility of writing the publications. In the fourth article, Olli-Pekka Malinen designed the Chinese questionnaire and was responsible for the data collection in China. In Finland, the data collection was administered by Professor Hannu Savolainen and in South Africa by Professor Petra Engelbrecht together with her colleagues Doctor Mirna Nel, Professor Norma Nel and Mr. Dan Tlale. In the fourth article, Olli-Pekka Malinen also analysed the data and had the main responsibility of writing and submitting the publication.

The author has also been involved in writing the following publications that are related to the field of the thesis, but are not included in the dissertation.

- V Malinen, O., Savolainen, H., Engelbrecht, P., & Xu, J. (2010). Inklusiivisen opetuksen kansainvälinen ja vertaileva tutkimus [International and comparative research of inclusive education]. *Kasvatus [Finnish Journal of Education]*, 41 (4), 351–362.
- VI Malinen, O., & Savolainen, H. (2012). The directions of Finnish teacher education in the era of Revised Act on Basic Education. In C. Forlin (Ed.), *Future Directions for Teacher Education for Inclusion*. London: Routledge.
- VII Malinen, O., Väisänen, P., & Savolainen, H. (2012). Teacher education in Finland: A review of a national effort for preparing teachers for the future. *The Curriculum Journal*, doi:10.1080/09585176.2012.731011
- VIII Savolainen, H. Engelbrecht, P., Nel, M., & Malinen, O. (2012). Understanding teachers' attitudes and self- efficacy in inclusive education: Implications for pre-service and in-service teacher education. *European Journal of Special Needs Education*, 27(1), 51–68.
- IX H. Engelbrecht, P. Savolainen, Nel, M., & Malinen, O. (2013). How cultural histories shape South African and Finnish teachers' attitudes towards inclusive education: A comparative analysis. *European Journal of Special Needs Education*, doi:10.1080/08856257.2013.777529.

Table of Contents

| | |
|--|-----------|
| PREFACE..... | v |
| LIST OF PUBLICATIONS..... | vii |
| TABLE OF CONTENTS..... | ix |
| | |
| 1 INTRODUCTION..... | 15 |
| 2 THEORETICAL BACKGROUND | 17 |
| 2.1 INCLUSIVE EDUCATION IN CHINA | 17 |
| 2.1.1 Education of children with disabilities in China..... | 17 |
| 2.1.2 National strategy of implementing inclusive education | 18 |
| 2.1.3 Barriers of inclusive education in China..... | 19 |
| 2.1.4 Chinese understanding of inclusive education | 20 |
| 2.2 SELF-EFFICACY..... | 25 |
| 2.2.1 Sources of self-efficacy..... | 25 |
| 2.2.2 The influence of self-efficacy on behaviour..... | 26 |
| 2.2.3 Teacher self-efficacy | 27 |
| 2.2.4 Teacher efficacy research in China | 29 |
| 2.3 ATTITUDES..... | 29 |
| 2.3.1 Measurement of attitudes | 30 |
| 2.3.2 Attitude formation | 31 |
| 2.3.3 The influence of attitudes on behaviour | 32 |
| 2.3.4 Teacher attitudes towards inclusive education | 33 |
| 2.3.5 Relationship between attitudes and self-efficacy..... | 34 |
| 3 AIMS AND METHODS | 37 |
| 3.1 MAIN AIMS..... | 37 |
| 3.2 SAMPLES AND PARTICIPANTS..... | 38 |
| 3.2.1 Study I..... | 38 |
| 3.2.2 Study II..... | 38 |
| 3.2.3 Study III..... | 38 |
| 3.2.4 Study IV..... | 39 |
| 3.3 MEASUREMENTS | 39 |
| 3.4 STATISTICAL ANALYSES..... | 40 |
| 3.4.1 Structural equation modelling with measured and latent variables | 40 |
| 3.4.2 Other analysis methods..... | 41 |

| | |
|---|-----------|
| 4 RESULTS AND DISCUSSION | 43 |
| 4.1 TEACHER SELF-EFFICACY FOR INCLUSIVE PRACTICES..... | 43 |
| 4.1.1 <i>Relationship between demographic variables and teacher self-efficacy for inclusive practices</i> | 46 |
| 4.2 ATTITUDES TOWARDS INCLUSION AND THE BEST EDUCATIONAL PLACEMENT OF STUDENTS WITH DISABILITIES | 47 |
| 4.2.1 <i>Relationship between demographic variables and attitudes towards inclusive education</i> | 48 |
| 4.3 RELATIONSHIP BETWEEN ATTITUDES AND TEACHER SELF-EFFICACY FOR INCLUSIVE PRACTICES | 48 |
| 4.4 PRACTICAL IMPLICATIONS..... | 49 |
| 5 METHODOLOGICAL CONSIDERATIONS | 53 |
| 5.1 QUESTIONNAIRE TRANSLATION AND ADAPTATION..... | 53 |
| 5.2 TEACHER SELF-EFFICACY FOR INCLUSIVE PRACTICES SCALE | 55 |
| 5.3 SCALES MEASURING ATTITUDE TOWARDS INCLUSIVE EDUCATION | 56 |
| 5.4 RESEARCH CONTEXT..... | 56 |
| 6 FUTURE DIRECTIONS | 60 |
| 6.1 GENERALISABILITY OF THE FINDINGS | 60 |
| 6.2 CLUSTERING OF TEACHER ATTITUDES AND EFFICACY BELIEFS ACCORDING TO SCHOOLS..... | 60 |
| 6.3 CHANGES IN TEACHERS' EFFICACY BELIEFS | 60 |
| 6.4 THE INFLUENCE OF ATTITUDES AND PERCEIVED SELF-EFFICACY ON TEACHER BEHAVIOUR | 61 |
| 7 CONCLUSIONS..... | 63 |
| REFERENCES | 64 |

LIST OF TABLES

| | |
|--|----|
| Table 1: Basic statistics of people with disabilities in China, in year 2006 | 22 |
| Table 2: Basic statistics on primary, junior secondary, and special education schools in China | 23 |
| Table 3: Basic statistics on primary, junior secondary, and special education schools in Beijing municipality in year 2010 | 24 |
| Table 4: Comparison of the concepts in Bandura's (2012) model of explaining human behaviour and in the theory of planned behaviour (TPB) | 35 |
| Table 5: Summary of the aims, data collection, and analysis in studies I-IV | 42 |
| Table 6: Mean scores and 95 % confidence intervals of attitudes and perceived teacher self-efficacy of inclusive practices | 45 |
| Table 7: Summary of the main findings and practical implications of the individual articles | 52 |

LIST OF FIGURES

| | |
|--|----|
| Figure 1: The causal model of social cognitive theory | 25 |
| Figure 2: Sources of self-efficacy and the structural paths of the influence from perceived self-efficacy to behaviour | 27 |
| Figure 3: Theory of planned behaviour | 33 |
| Figure 4: Combined model of predicting human behaviour | 36 |
| Figure 5: Main aims of this dissertation | 37 |
| Figure 6: Factor structure of teacher self-efficacy for inclusive practices..... | 43 |
| Figure 7: Chinese model for explaining teacher self-efficacy for inclusive practices | 47 |
| Figure 8: SEM for explaining attitudes towards inclusive education..... | 49 |
| Figure 9: Model of predicting teacher behaviour in inclusive classrooms | 62 |

LIST CHINESE CONCEPTS AND PHRASES

| | | |
|--|-------------------------|--|
| bānzhǔrèn | 班主任 | head teacher |
| dàxué | 大学 | university |
| gāokǎo | 高考 | college entrance exam |
| Hànzú | 汉族 | Han Chinese |
| hùkǒu | 户口 | household registration system |
| jiàoyánzǔ | 教研组 | teaching-study group |
| Jiāxiào hùdòng píngtái | 家校互动平台 | home-school interaction platform |
| kējǔ | 科举 | imperial examination |
| Pǔtōnghuà | 普通话 | standard Chinese language |
| quánà jiàoyù | 全纳教育 | inclusive education |
| rónghé jiàoyù | 融合教育 | inclusive education |
| shǎoshù mínzú | 少数民族 | ethnic minority |
| shīfàn dàxué | 师范大学 | normal university |
| suíbān jiùdú | 随班就读 | learning in regular classrooms |
| xiǎoxué | 小学 | primary school |
| Yǐ tèshū jiàoyù xuéxiào wèi gǔgàn, yǐ suíbān jiùdú hé tèjiào bān wéi zhǔtǐ | 以特殊教育学校为骨干、以随班就读和特教班为主体 | special education school as backbone, learning in regular classroom as main body |
| zhōngkǎo | 中考 | middle school entrance exam |
| zhōngxué | 中学 | middle school |

LIST OF ABBREVIATIONS AND SYMBOLS

| | |
|-------------------|---|
| ANOVA | analysis of variance |
| ATIES | Attitudes Towards Inclusive Education Scale |
| CFI | comparative fit index |
| CI | confidence interval |
| CFA | confirmatory factor analysis |
| r | correlation |
| α | Cronbach's alpha coefficient |
| ESS | European Social Survey |
| IE | inclusive education |
| AIT | implicit association test |
| $X_{se1}-X_{sen}$ | independent measured variables |
| ML | maximum likelihood |
| MAR | missing at random |
| OECD | Organisation for Economic Co-operation and Development |
| PISA | Programme for International Students Assessment |
| p | probability |
| MLR | robust maximum likelihood estimator |
| RMSEA | Root Mean Square Error of Approximation |
| SACIE | Sentiments Attitudes and Concerns about Inclusive Education |
| SA | South Africa(n) |
| SEN | special educational needs |
| SD | standard deviation |
| Beta | standardised beta coefficient |

| | |
|--------|--|
| SRMR | standardised root mean square residual |
| SEM | structural equation model(ling) |
| TEIP | Teacher Self-Efficacy for Inclusive Practices |
| TPB | theory of planned behaviour |
| TRA | theory of reasoned action |
| TRAPD | Translation, Review, Adjudication, Pre-testing and Documentation |
| TLI | Tucker Lewis index |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| WHO | World Health Organization |

1 Introduction

Inclusive education is included in the education policies of governments around the world, and today there is a wide international consensus about inclusion as a desirable goal. This does not mean that there would be a single, unified global movement towards inclusive education. An illustrative example of the plurality within the inclusion agenda can be seen in the numerous competing definitions of inclusive education (Ainscow, Booth, & Dyson, 2006, p. 27; Allan & Slee, 2008, pp. 27–41; Kavale & Forness, 2000). The variety within the global inclusive education movement is so great that Dyson (1999) has suggested that we could use the plural form and talk about inclusions. Inclusive education has been used to describe anything from physical integration of students with disabilities in mainstream classrooms to the transformation of classrooms, curricula, and pedagogies. Initially inclusive education concentrated on students with disabilities' access to and participation in normative contexts. Today, however, inclusive education is often used as a broader concept that relates many groups of children and youth who are excluded from school and society (UNESCO, 2009). According to Kozleski, Artiles, Fletcher, and Engelbrecht (2009) the basic principle of inclusive education and inclusive schools is a commitment to belonging, nurturing, and educating all students regardless of their differences in ability, culture, gender, language, class, and ethnicity (Kozleski, Artiles, & Waitoller, 2011).

The inclusive education movement has involved many different research genres from which Slee (2011, pp. 63–64) provides a few examples. According to him, the first genre is traditional or neo-special education research that aims at rebranding special education so that it would align with the inclusive education policies around the world. The second genre is dedicated to providing critique of special education. The third genre of inclusive education research concentrates on analysing inclusion according the different identity groups such as gender, race, sexuality, and social class. In this genre, the research interests may also focus on some specific area of education such as educational leadership and administration, teaching and learning, or different levels and sectors of education. In addition to these three genres, there are also scholars who are sceptical particularly about the feasibility of the so-called full inclusion (i.e. educating all students, with no exceptions, in mainstream settings). In the United States, scholars like Mostert, Kavale, and Kauffman (2008), who prefer a more traditional special education, have been involved in intense debate with researchers such as Gallagher, Heshusius, Iano, and Skrtic (2004), who are strong believers in inclusive education.

It is important to bear in mind that educational practices labelled as 'inclusive education' have a strong local flavour. Even though the inclusive rhetoric and policies may travel across borders and from language to language, the educational practices which are tightly connected to the local culture have proven to be harder to transform (Alur, 2009; Bach, 2009; Mitchell, 2005). There is, for example, a considerable distinction between the inclusive education of the developing and the developed world. In many

affluent Western democracies, inclusive education refers to the policy of merging well-resourced segregated special education and general education into one system. In these countries, inclusive education is commonly seen to tackle the exclusion of students with disabilities and other 'special needs'. In many developing parts of the world, for example in most Sub-Saharan African countries, this version of inclusion is irrelevant as there is not much special education that could be deconstructed (Artiles & Dyson, 2005; Singh, 2009).

This dissertation studies inclusive education from teachers' perspective particularly in mainland China. The main focus is on two concepts – self-efficacy and attitudes. The current thesis is also connected to a wider international comparative research project that has the purpose of producing knowledge on the development of inclusive education from a teacher's point of view in different countries.

2 Theoretical background

2.1 INCLUSIVE EDUCATION IN CHINA

In China, the first high-profile experiments of admitting children with disabilities in regular classrooms of mainstream schools began in the 1980s (Deng & Zhu, 2007). The initial measures of promoting inclusion were taken in the rural and remote areas of China where, because of limited financial resources and expertise as well as difficult transportation conditions, regular classrooms were often the only option for providing some education for children with disabilities (Deng & Pei, 2009; Xiao, 2007). In the 1980s, Chinese legislation also started to support a more inclusive approach to education (Deng & Manset, 2000; Deng, Poon-Mcbrayer, & Farnsworth, 2001; Liu & Jiang, 2008; McCabe, 2003; Qian, 2003). In 1990, the new government policy of accepting children with disabilities in mainstream classes was given the name *suībān jiùdú* (learning in regular classrooms) (Xu, 2012). Even though the official *suībān jiùdú* policy has only about thirty years of history, anecdotes from Chinese scholars and practitioners suggest that in individual cases the practice of children with disabilities attending mainstream schools has existed for a much longer time (Deng & Zhu, 2007; Xu, 2012).

2.1.1 Education of children with disabilities in China

As seen in Table 2, in 2010 the total number of official *suībān jiùdú* students in Chinese regular primary and junior middle schools was 255 662, while the total enrolment in special education schools or attached special education classes was 169 951 students. These statistics can be interpreted to understand that the majority (60.1 %) of students who are officially recognised as having a disability or other special educational need are already placed in mainstream settings. While this interpretation provides a quite positive picture of the advancement of inclusive education in China, adding another piece of statistics reported in the mix produces a more confusing image. In 2006, a national sample survey (CDPF, 2007) revealed that China had almost 2.5 million compulsory education age (6–14-year-old) children with disabilities. This finding indicates that, in the official Chinese statistics, the majority of compulsory education age children with disabilities are recognised as neither *suībān jiùdú* nor special education school/class students. Potential explanations for this mismatch could be that some children with disabilities who go to school are registered as regular students and/or some children with disabilities do not go to school at all. In addition, the Chinese numbers of people with disabilities are small in international comparison. In 2011, the World Health Organisation (WHO, 2011, p. 30) estimated that the global prevalence of moderate and severe disabilities would be 15.3 % across all ages, and 5.1 % among the 0–14-year-old population. The corresponding Chinese percentages, calculated from the *Second China National Sample Survey on Disability* (CDPF, 2007) and the *China Statistical Yearbook 2007*

(National Bureau of Statistics of China, 2007), are almost three times smaller (6.3 % and 1.8 %, respectively).

The difference between the Chinese and WHO estimates in the number of people with disabilities is probably at least partly explained by different assessment criteria. The Chinese government standards for assessing disabilities (CPG, 2006) use six different disability categories which are (1) visual disability, (2) hearing disability, (3) language disability, (4) intellectual disability, (5) physical disability, and (6) mental disability. These categories are mostly defined by following the medical model of disability. A person has to meet the criteria of at least one of the categories in order to be defined as having a disability. Instead of disability categories, the WHO (2013) *Disability Assessment Schedule 2.0* uses six different domains of functioning in measuring health and disability. Compared to the Chinese disability criteria, these domains, which are (1) cognition, (2) mobility, (3) self-care, (4) getting along, (5) life activities, and (6) participation, cover a much wider area of human functioning. Therefore, they are likely to produce higher estimates about the prevalence of disability in a given population.

2.1.2 National strategy of implementing inclusive education

The Chinese government promotes a more inclusive approach to education, but it does not aim at deconstructing the existing special education system entirely. The government still plans to maintain the existing special education schools as resource centres that provide education for the students with profound special education needs (SEN), and support the regular schools in including the majority of students with SEN. This mainland Chinese approach to inclusive education, which emphasises the roles of both special education and mainstream schools, is often described by the slogan *Yí tèsū jiàoyù xuéxiào wèi gǔgàn, yī suǐbān jiàodú hé tèjiào bān wéi zhǔtǐ* (Special education school as backbone, learning in regular classroom as main body) (CPG, 2011). In China's National Plan for Medium and Long-term Education Reform and Development for years 2010–2020 (CPG, 2010), the government also provides concrete guidelines for implementing its strategy of inclusive education. One concrete goal in this influential document is to ensure that by 2020 every prefecture, prefecture-level city, and county of more than 300 000 residents has at least one special education school.

Financial factors are most likely an important incentive for educating the majority of students with disabilities in regular classrooms. The number of children with disabilities going to school has grown so rapidly that expanding the network of special education schools at the same pace would have been a very expensive exercise, while accepting children with disabilities into regular classrooms has been seen as a much more cost-effective approach (Liu & Jiang, 2008; McCabe, 2003; Xiao, 2007).

It appears that, in the last two decades, the growth in the number of special education schools in China has slowed down. The national statistics show a steep growth (from 375 to 1539) in the number of special education schools during years 1985–2000, but the growth during the next 10-year period (years 2001–2010) was much more relaxed (from 1531 to 1706 schools). However, during years 1985–2010, the number of regular primary schools dropped by over half-a-million units and even the number of junior middle schools by over 21 000 units. This means that, in recent decades, the relative share of

special education schools has grown significantly, even though they still make up only about half a per cent of compulsory education schools in China.

In Beijing municipality, where this dissertation is primarily concentrated, the student enrolment in special education schools did not grow much during the 12-year period between 1998 and 2010, and the number of special education school units actually dropped from 30 to 21 (National Bureau of Statistics of China, 1999, 2011). Yet, the local strategy of special education still emphasises both the development of special education schools and inclusive regular schools (Beijing Municipal Commission of Education, 2011).

In terms of financing, the nature of development has been less clear. In 1998–2009, the total expenditure on special education schools in China increased over five-fold from 840 million to about 4.5 billion Yuan. Nevertheless, the relative share of special education school costs from the entire national budget of the educational sector in China remained unchanged. During the whole 1998–2009 period, special education schools were responsible for only about 0.3 % of the total national expenditure on education (National Bureau of Statistics of China, 1999, 2010, 2011; Xiong & Lei, 2012).

National level Chinese statistics about special and inclusive education, like in any other area of education and society, are often problematic since the regional differences in the stage of development inside the country are huge. Disparities in access to resources exist not only between the poor and remote areas of Western China and the wealthier regions along the eastern coastline but also between different groups of people within a certain locality. For example, the children with disabilities of migrant parents who have migrated from the countryside to work in the big cities may not be entitled to services such as special education schools, trained special education teachers, and resource classrooms in regular schools that are available for families who are counted as local residents in the country-wide *hùkǒu* (household registration) system.

2.1.3 Barriers of inclusive education in China

Competitive school cultures and traditional instructional practices like whole-class teaching and rote learning have been seen as major obstacles of inclusive education in China. In recent years, teachers have been encouraged to adopt more student-centred teaching strategies that could potentially serve better the individual needs of children with disabilities. Since the days when the *kējǔ* (imperial examination) system was introduced in the early 7th century, the Chinese educational culture has emphasised selection and competition. Teachers' performance has commonly been evaluated based on their students' test results in the *zhōngkǎo* (middle school entrance exam) and *gāokǎo* (college entrance exam). This has understandably reduced teachers' enthusiasm to have students with difficulties in learning and participation in their classes (Deng & Manset, 2000; Deng & Pei, 2009; Deng et al., 2001).

Large class sizes have also been seen as an important challenge for inclusive education in China because it is said to prevent teachers from using more individualised curriculum and teaching methods (McCabe, 2003; Xiao, 2007). According to the OECD (2012, p. 450), in 2010 the average class size in Chinese primary schools was 37.4 students, while the OECD average was 21.2 students. Even though the class sizes in China are large on the average, there is considerable variation between different schools and localities. In

major cities, declines in student population as a result of the one-child policy have forced local governments to introduce smaller classes in order to minimise teacher layoffs (Cheng, 2011). My own observations from officially registered Beijing schools in spring 2012 also suggest that, at least on the primary school level, classes of about 30 students are not that rare anymore. Nevertheless, it is important to recognise that, in addition to officially registered schools, Beijing has been reported to have over 200 unregistered schools (Zhongguo qingnian bao, 2008). These schools are usually set up for the children of migrant families without local hùkǒu (household registration) who are not eligible for free public education. In these schools, it is possible to encounter classes of over 60 students (Wen, 2012, p. 38). However, these unofficial schools which are the epitome of educational inequality in urban China were not studied in this dissertation.

Considering the issue of class sizes, it is also significant to notice that the average student–teacher ratios in officially registered Chinese schools are not particularly high. In 2010, the Chinese primary schools had, on average, 17.7 students per teacher, and lower middle schools had 15.0 students per teacher (Table 2). In Beijing municipality, the average student–teacher ratios in 2010 were 13.2 in primary schools and 10.2 in lower middle schools (Table 3). These ratios were actually well below the OECD average, which was 15.8 for primary and 13.7 for lower secondary schools (OECD, 2012, p. 451). The contradiction between large class sizes but relatively low student–teacher ratios is explained by the fact that Chinese teachers, at least in urban schools, often teach only a few lessons per day. The trade-off in the Chinese school system has been to limit the teachers’ daily teaching responsibility and reserve more time for lesson planning, exam rating, and other off-class activities. In the light of these statistics, it appears that, in the officially registered Chinese schools, especially in the wealthier regions like Beijing municipality, the lack of teaching staff as such cannot be considered as the most crucial obstacle for the implementation of inclusive education.

In regard to developing inclusive education, Chinese teachers’ rather limited class-teaching time could be a valuable resource. When the teachers’ work days are not fully occupied with delivering lessons, they should be able to use time for other activities like tutoring students with difficulties in learning, collaborating with colleagues, consulting other professionals, and participating in professional development programmes related to inclusive education.

2.1.4 Chinese understanding of inclusive education

One of the most intense academic discussions around inclusive education among Chinese scholars has dealt with the question of whether inclusive education even exists in mainland China. In China, inclusive education is translated as *quánnà jiàoyù* or *rónghé jiàoyù*, both terms that up until now have been quite seldom used outside academic circles. In everyday communication among teachers and school administrators, the term *suībān jiùdú* (learning in regular classrooms) is the most commonly used for referring to the policy of accepting students with disabilities in mainstream school settings.

Chinese *suībān jiùdú*, which dates from the 1980s, indeed has some characteristics not found in the international inclusive education agenda. *Suibān jiùdú* has, for example, strong connections to Confucian educational thinking and the concepts of socialism, and

it is directed mainly at children with visual impairments, hearing impairments, and mental retardation rather than for all children, as characterised by the international inclusion movement (Deng et al., 2001; Deng & Zhu, 2007). In 2009, over four-fifths (83 %) of primary school students who were officially counted as *suībān jiùdú* students had still been classified under one of the above-mentioned three disability categories (Ministry of Education of the People's Republic of China, 2010).

Due to the national characteristics of the mainland Chinese policies, some scholars make a distinction between *suībān jiùdú* and inclusive education (*quánnà jiàoyù* or *rónghé jiàoyù*), while others use these concepts interchangeably, at least in academic exchanges outside mainland China (Deng & Zhu, 2007; Li, 2009; Liu & Jiang, 2008). However, in this dissertation, all these Chinese concepts are considered to refer to the phenomenon that is named as *inclusive education* in the international discussion. The justification for doing so is that the Chinese *suībān jiùdú* policy is not only a home-grown initiative. Several scholars emphasise that the development of inclusive education in China has also been strongly influenced by the high-profile international inclusion campaigns, including the United Nations (1989) *Convention on the Rights of the Child*, as well as the UNESCO *World Declaration on Education for All* (1990), *Salamanca Statement* (1994), and *Dakar Framework for Action* (2000) (Deng & Pei, 2009; Liu & Jiang, 2008; Potts, 2000).

Table 1: Basic statistics of people with disabilities in China, in year 2006 (Adapted from CDPF, 2006; CDPF, 2007; CPG, 2007; National Bureau of Statistics of China, 2007).

| Item | Grouping | Million | Share from | % |
|--|----------------------------|----------------|--|----------|
| People with disability | in total | 83.0 | | 6.3 |
| | male | 42.8 | total population in China | 3.3 |
| | female | 40.2 | | 3.1 |
| Place of residence | Urban | 20.7 | total population of people with disabilities | 25.0 |
| | Rural | 62.3 | | 75.0 |
| Age | 0-14 years | 3.9 | total population in relevant age group | 1.8 |
| | 15-59 years | 34.9 | | 4.3 |
| | 60+ years | 44.2 | | 27.9 |
| People in different disability categories | visual disabilities | 12.3 | total population of people with disabilities | 14.9 |
| | hearing disabilities | 20.0 | | 24.2 |
| | speech disabilities | 1.3 | | 1.5 |
| | physical disabilities | 24.1 | | 29.1 |
| | intellectual disabilities | 5.5 | | 6.7 |
| | psychological disabilities | 6.1 | | 7.4 |
| | multiple disabilities | 13.5 | | 16.3 |
| Educational level | university | 0.9 | total population of people with disabilities | 1.1 |
| | upper middle school | 4.1 | | 4.9 |
| | lower middle school | 12.5 | | 15.0 |
| | primary school | 26.4 | | 31.9 |
| Illiteracy among over 15-year-old people with disabilities | | 35.9 | over 15-year-old people with disabilities | 43.3 |

Table 2: Basic statistics on primary, junior secondary, and special education schools in China (Adapted from Ministry of Education of the People's Republic of China, 2011a; National Bureau of Statistics of China, 2011).

| School type | Number of schools (2010) | Change in the number of schools (1985-2010) | Full-time teachers (2010) | Change in the number of full-time teachers (1985-2010) | Suǐbān jùdú students ¹ (2010) | Total student enrolment (2010) | Change in total student enrolment (1985-2010) | Student-teacher ratio ² (2010) |
|------------------------------|--------------------------|---|---------------------------|--|--|--------------------------------|---|---|
| Primary schools | 257 410 | -574 899 | 5 617 000 | +240 000 | 180 538 | 99 407 000 | -34 295 000 | 17.7 |
| Regular lower middle schools | 54 823 | -21 080 | 3 523 000 | +1 363 000 | 75 124 | 52 759 000 | +13 111 000 | 15.0 |
| Special education schools | 1 706 | +1331 | 39 650 | +33 000 | | 166 012 | | 4.2 |

¹Refers to children with visual, hearing, intellectual, or other disabilities who study in regular classrooms in regular schools

²Refers to the average number of students instructed by a full-time teacher

NB: No reliable data from year 1985 about student enrolment in special education schools available

Table 3: *Basic statistics on primary, junior secondary, and special education schools in Beijing municipality in year 2010* (Adapted from Beijing Municipal Bureau of Statistics, 2011, pp. 407–419).

| School type | Number of schools | Full-time teachers | Total student enrolment | Learning in regular classroom students ¹ | Student-teacher ratio ² |
|---------------------------|-------------------|--------------------|-------------------------|---|------------------------------------|
| Primary schools | 1104 | 60 038 | 653 255 | 3260 | 13.2 |
| Junior middle schools | 779 | 30 255 | 309 912 | 1844 | 10.2 |
| Special education schools | 21 | 906 | 2705 | | 3.0 |

¹Refers to children with visual, hearing, intellectual, or other disabilities who study in regular classrooms in regular schools

²Refers to the average number of students instructed by a full-time teacher

2.2 SELF-EFFICACY

The concept of self-efficacy was introduced by Bandura (1977) in his seminal work “Self-Efficacy: Toward a Unifying Theory of Behavioral Change.” More recently Bandura (1997, p. 37; 2006b) has defined self-efficacy, or perceived self-efficacy as it is sometimes referred to, as a judgment of capability to execute a given type of performance under a variety of circumstances. In other words, it is concerned with what a person believes she can do under different sets of circumstances. Self-efficacy is grounded in the social cognitive theory (Bandura, 2001). This theory holds that people are able to exercise some control over their self-development and life circumstances even though many things may be at least partly dependent on chance (Bandura, 2006a).

In the social cognitive theory, human functioning is a product of the interplay between three different determinants: (1) intrapersonal influences, (2) the behaviour the individuals engage in, and (3) environmental forces that affect them (Figure 1). Intrapersonal influences, which refer to personal cognitive, affective, and biological characteristics, are part of the determining conditions in the dynamic interaction of the model. This means that people have influence in shaping the courses and events of their lives. In the social cognitive theory, self-efficacy is seen to be a constituent of intrapersonal influences. The reciprocal causation between these three factors does not mean that they have equal strength. Some sources of influence may be stronger than others (Bandura, 1997, pp. 5–7, 1989, 2012).

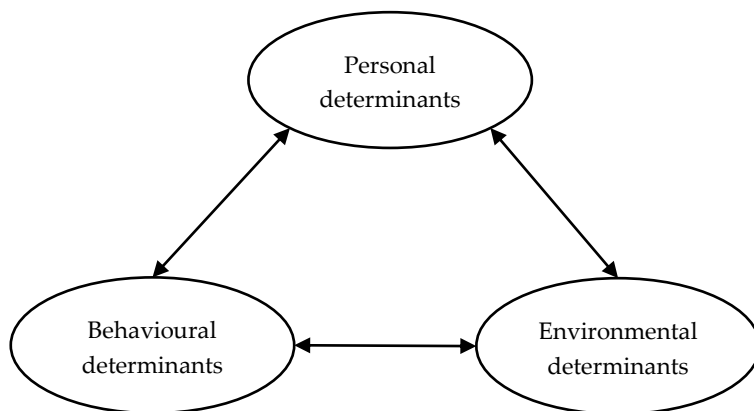


Figure 1: The causal model of social cognitive theory (Adapted from Bandura, 2012).

2.2.1 Sources of self-efficacy

Self-efficacy is based on four main sources of information: (1) mastery experiences, (2) vicarious experiences, (3) social persuasion, and (4) somatic and emotional states (Bandura, 1977, 1997; Tschannen-Moran & Woolfolk Hoy, 2007). In short, mastery experiences mean previous experiences of success in the activities in the target domain.

Vicarious experiences refer to seeing people similar to oneself manage task demands successfully. Social persuasion by other people affects self-efficacy so that a person believes more in oneself and becomes perseverant when facing difficulties. Somatic and emotional states, for their part, provide information that people use to judge their strength and vulnerability. Any given influence that a person encounters may operate through one or more of the four sources of efficacy information. However, merely receiving information from these sources is not adequate for transforming efficacy beliefs. Information instructs perceived self-efficacy only when it involves cognitive processing and reflective thinking (Bandura, 1997, p. 79).

From the four sources of self-efficacy, mastery experiences are seen as the most powerful since they provide the most authentic evidence of whether one can do what it takes to succeed. Nevertheless, if people experience only easy success, they may come to expect quick results and become shortly discouraged when they encounter difficulties. Gaining resilient self-efficacy beliefs requires people to experience and overcome obstacles through perseverant effort (Bandura, 1997, p. 80, 2012; Tschannen-Moran & Woolfolk Hoy, 2007).

The person's perceived self-efficacy is not a general evaluation that would remain similar across contexts. People may feel efficacious for performing given tasks in certain settings while perceiving themselves as less efficacious under different circumstances. Since people differ in their efficacy across different domains and even across various facets within an activity domain, there cannot be a single all-purpose measure of self-efficacy (Bandura, 2012).

2.2.2 The influence of self-efficacy on behaviour

The significance of self-efficacy is manifested in the influence it has on human functioning. Self-efficacy affects human behaviour through cognitive, affective, motivational, and decisional processes and acts as a factor that determines whether people think optimistically or pessimistically, and in self-enabling or self-disabling ways. In addition, self-efficacy affects people's motivation and how they persevere through difficulties when aiming to achieve goals they have set for themselves. Self-efficacy beliefs also play an essential role in self-regulation of emotional states that affect the vulnerability to stress and depression. Finally, self-efficacy affects the variety of options people consider and the choices they make at important decision points. Those with high self-efficacy set more ambitious goals for themselves and invest considerable effort to realize these goals, while those who distrust their efficacy do not dare to even repeat what they have already accomplished and instead lower their goal and slacken their efforts (Bandura, 2012).

Self-efficacy influences behaviour both directly and indirectly. These structural paths of influence from self-efficacy to behaviour are illustrated in the model presented in Figure 2. In this model, *outcome expectations* refer to the material costs and benefits, social detriments and advantages, and positive and negative self-evaluative reactions related to the given behaviour; *goals* function as further incentives and guides of action; and *sociostructural factors* refer to how people perceive the structural characteristics of their environment (the obstacles and opportunities it provides). *Sociostructural factors* are

influenced by efficacy evaluations so that those with low self-efficacy are easily convinced of the futility of their effort when they encounter institutional obstacles, whereas people with high levels of self-efficacy figure out ways to surmount them (Bandura, 2012).

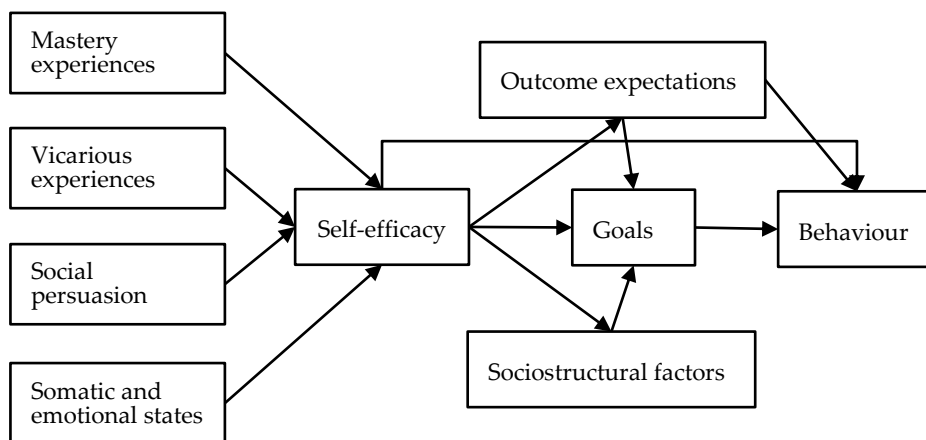


Figure 2: Sources of self-efficacy and the structural paths of the influence from perceived self-efficacy to behaviour (Adapted from Bandura, 1977, 2012).

2.2.3 Teacher self-efficacy

Traditionally, research on teacher efficacy has been divided into two strands which can be called the RAND strand and the Bandura strand. The foundation of the first strand is usually traced back to the 1970s, when the RAND Corporation (2012), a non-profit research and analysis institution, added two items dealing with teacher efficacy to their questionnaire. In research conducted along this strand, teacher efficacy has usually been divided into the dimensions of general and personal teacher efficacy. The term *general teacher efficacy* is used to refer to teachers' beliefs about how teachers in general can influence student learning, whereas *personal teacher efficacy* is seen as a more individual and specific belief about the efficacy of their own teaching.

This dissertation belongs to the so-called Bandura strand of teacher efficacy research. Studies that are conducted along this strand regard teacher efficacy as one particular domain of self-efficacy. Teachers with a high sense of instructional self-efficacy believe that even difficult students are teachable (Bandura, 1997, p. 240; Guskey & Passaro, 1994, p. 628). Higher levels of efficacy beliefs lead to greater efforts by teachers, which in turn lead to better performances, which again provide information for forming higher efficacy beliefs (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Hence, it is understandable that teachers' perceived self-efficacy has been a domain of considerable interest among the behavioural sciences research community, and even Bandura (n.d.) himself has developed his own teacher self-efficacy scale.

As already mentioned in section 2.2.1, self-efficacy is based on four different sources from which mastery experiences are commonly seen as the most powerful (Bandura, 1994). Regarding teachers' efficacy evaluations, it is assumed that the other sources of self-efficacy would have a stronger impact on novice teachers who have little mastery experiences, while for experienced teachers who have gained more mastery experiences, the other sources play a smaller role (Tschannen-Moran & Woolfolk Hoy, 2007). The beginning teachers' perceived self-efficacy is also assumed to be more malleable, especially during their training and the first years of teaching, while experienced teachers' efficacy beliefs appear to be quite robust even when the teachers go through a professional development programme (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998; Ross & Bruce, 2007). Woolfolk Hoy and Burke Spero (2005) indeed found significant increases in efficacy during the novice teachers' student teaching, but significant declines during their first year of teaching. This type of fluctuation of efficacy beliefs could be explained by the "efficacy boost" the early-career teachers receive during the training and the "reality shock" they face in the form of the demands and expectations of the teaching profession. The other source of instability in student teachers' self-efficacy evaluation may be the ambiguity about the performance undertakings, which means that during their training, there may be only little basis for them to judge their self-efficacy for teaching activities (Bandura, 2012).

Working in schools effectively requires teachers to master a wide spectrum of skills. To deal with this situation, researchers have often divided teacher self-efficacy into several dimensions which are designed to reflect different sub-domains of required competencies. The number of efficacy dimensions has often varied from three to six, most likely depending on the measurement instrument and the focus of the study. These assumed sub-domains of effective teaching have often been related to classroom management, instruction, motivating and engaging students, and collaborating with colleagues and parents (Chan, 2008a, 2008b; Klassen et al., 2009; Romi & Leyser, 2006; Skaalvik & Skaalvik, 2007; 2010; Tschannen-Moran & Woolfolk Hoy, 2001; 2007)

While teacher self-efficacy is considered to have a multifaceted structure, it is also, as any other domain of efficacy beliefs, context-dependent (Tschannen-Moran & Woolfolk Hoy, 2007). Since teachers do not feel themselves equally capable across all tasks and circumstances, there is need to test the theoretical assumptions related to self-efficacy in diverse school and cultural contexts, and to use domain-specific instruments and research designs (Klassen, Tze, Betts, & Gordon, 2011). The context-bounded nature of teacher self-efficacy clearly creates need for investigations with special emphasis on inclusive education. Until very recently, the body of such research has consisted of only a handful of studies (e.g., Almog & Shechtman, 2007; Romi & Leyser, 2006; Soodak, Podell, & Lehman, 1998). These studies have utilized general teacher efficacy scales such as the *Teacher Efficacy Scale* by Gibson and Dembo (1984), as there has not been any specialised instrument for assessing teacher self-efficacy in inclusive classroom settings. In order to provide a specific tool for investigating teacher self-efficacy within the framework of inclusive education, Sharma, Loreman, and Forlin (2012) developed a new scale called the *Teacher Self-Efficacy for Inclusive Practices Scale*. In recent years, this scale has been used

in their own and their collaborators' papers (Zan, Liu, Wang & Sharma, 2011) as well as in three original publications (II–IV) of this dissertation.

In this thesis, the term *teacher self-efficacy for inclusive practices* refers to teachers' self-evaluation of their capabilities in modifying the instruction and assessment according to students' individual characteristics, preventing and controlling disruptive student behaviour, and collaborating with parents and colleagues in a way that promotes learning of all students. In many cases, these inclusive practices are rather ordinary methods that can be part of any good teaching. David Mitchell's (2008 meta-analysis of over 2000 research articles on teaching students with special educational needs (SEN) emphasised the common sense nature of good inclusive teaching. His analysis has shown that the majority of the most effective methods of teaching SEN students are very down-to-earth strategies like increasing parent involvement, creating a supportive school culture, teaching cognitive strategies, using formative assessment and feedback, and providing adequate review and practice. These are all strategies that are already used by numerous good educators also in general education settings.

2.2.4 Teacher efficacy research in China

In mainland China, teacher efficacy research has concentrated on several themes including the relationship between teachers' demographic factors and their teacher efficacy, the effect of teacher efficacy on teachers' educational practices and student learning outcomes, the relationship between teacher efficacy and teachers' work-related stress and psychological well-being, and the techniques of developing teacher efficacy (Tan, 2006; Wang, 2008). Notably, the structure of teacher self-efficacy has not received much attention among mainland Chinese researchers after the 1990s studies by scholars such as Yu, Xin, and Shen (1995). One of the few more recent studies on the structure of teacher self-efficacy was conducted among Shanghai in-service teachers by Cheung (2008) who found two dimensions of self-efficacy. The first dimension dealt with efficacy in teaching and student engagement, and a second dimension represented efficacy in maintaining discipline.

Chan (2008a), who studied Chinese in-service and pre-service teachers in Hong Kong, found six dimensions, namely self-efficacy in teaching highly able learners, classroom management, guidance and counselling, enhancing student engagement, teaching to accommodate diversity, and teaching for enriched learning. In his later study, Chan (2008b) added one more dimension, self-efficacy in working with colleagues and parents, to his list. These results which were obtained among Hong Kong teachers may not be fully applicable to the mainland Chinese context since Hong Kong has a dissimilar society and a separate education system that has inherited some of its features from the former British colonial power.

2.3 ATTITUDES

The scientific study of attitudes dates back to the early 20th century; since then, it has remained as one of the most significant concepts of social psychology and attitude research, a very active area of scientific inquiry (Bohner & Dickel, 2011; Krosnick, Judd, & Wittenbrink, 2005). The popularity of attitudes as a research topic is demonstrated in the

number of alternative definitions of the concept. By the mid-1930s, Allport (1935) was able to find 16 competing definition of attitudes, before adding his own, the 17th, to the list.

One division that can be found in attitude definitions is whether they describe attitudes as stable entities that are stored in memory or as mental structures that are constructed on the spot. These different standing points are also connected to the questions of attitudes' context sensitivity versus stability over time (Bohner & Dickel, 2011). This dissertation does not aim to go much deeper into the discussion over the most appropriate definition of attitudes, a debate that has been going on for over a century. Therefore, for the needs of this writing, it is sufficient to refer to one of the simplest and most intuitive definitions provided by Eagly and Chaiken (1998, p. 269) who define attitude as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor".

Mahzarin and Heiphetz (2010) have counted that between 1995 and 2010 alone over 13 000 scientific articles on the topic of attitudes were published. Yet, there is still no grand unifying theory of attitudes, and the handful of attitude theories that have survived the time and experimental testing during the last 50 years or so at best provide explanations for some smaller pieces of the whole attitude concept.

Attitudes are said to serve many functions, and the same attitudes may serve different purposes for different individuals (Bizer, Barden, & Petty, 2003). The first function of attitudes is a *knowledge* function which means that attitudes enable people to explain events and make sense of the world around them. The second one is a *utilitarian* function in which attitudes help individuals to obtain rewards or avoid punishments. Practical examples of the utilitarian usage of attitudes can be found, for example, from authoritarian societies or workplaces, where holding and expressing acceptable attitudes is a widely used method of staying out of trouble. The third function would be *value-expressive*, in which attitudes work as tools for expressing core values and important beliefs. Research has shown that attitudes that fall into this category are particularly resistant to change. Finally, attitudes can also serve an ego-defensive function when they help individuals to protect self-esteem which can be conceptualized as attitude towards oneself (Ajzen, 2012a; Mahzarin & Heiphetz, 2010).

2.3.1 Measurement of attitudes

Attitudes are most often measured by an explicit self-report method, which commonly involves a relatively large number of questionnaire items that are assessed with a Likert-type scale (Krosnick et al., 2005). More recently, implicit response-time-based methods such as the *implicit association test* (AIT) and even measures of neural activity have been introduced as alternative ways to measure attitudes (Bohner & Dickel, 2011). These implicit methods, which aim at capturing the "hidden" attitudes, are often used when people are expected to be unwilling or unable to provide their genuine evaluation of the given object (Bizer et al., 2003; Krosnick et al., 2005).

The self-report survey approach has been criticized over two major drawbacks. First, some attitudes are socially less desirable, and people have a tendency to express attitudes they expect others to accept. Secondly, sometimes human beings simply do not know

what they think and are thus unable to provide information from their attitudes (Mahzarin & Heiphetz, 2010). Regardless of its drawbacks, the self-report method is still the most widely used tool for measuring attitudes, and it is also the approach implemented in this dissertation. As tempting as it would be to discover what people “really” think about inclusive education, implicit measurement techniques are not necessarily a viable option for the purposes this study. Assessment of people’s attitudes towards such a complicated and multidimensional issue as inclusive education is more valid when it involves conscious consideration and processing of information instead of recording neural activity or response times to some simple stimulus. Further support for the validity of traditional self-report scales can be found in the meta-analysis of 122 research reports in which the correlation between implicit measures of attitudes and behaviour was actually found to be lower compared to self-report measures (Greenwald, Poehlman, Uhlmann, & Banaji, 2009).

2.3.2 Attitude formation

The role of biological factors and environmental factors in human development is one of the central themes in behaviour sciences research. Traditionally the field of attitude research has been dominated by the view that attitudes originate from the social world, and social learning theory (i.e. observing others) has been the most widely used explanation of how especially children acquire attitudes (Mahzarin & Heiphetz, 2010). Notably, these environmental sources of attitudes can either be close to the recipient or they may affect from a distance though new technologies. More recently, scientists have made progress in understanding the influence of biological and genetic factors on attitudes, and there is evidence to suggest that, for example, personality traits of neuroticism and impulsivity may be associated with attitudes. Yet in this dissertation, we concentrate mostly on the role of environmental sources in attitude formation (Albarracín & Vargas, 2010).

Attitudes can change through controlled or spontaneous processes (Ajzen, 2012a). Sometimes attitude formation requires direct or virtual experience and considerable cognitive processing, while in other occasions a mere exposure to the persuasive message may result in an attitude change (Albarracín & Vargas, 2010; Fabrigar, MacDonald, & Wegener, 2005). Whether people choose to base their attitudes on careful reflection of information depends, among other thing, on their level of motivation and cognitive capacity (Ajzen, 2012a). In the case of extremely highly motivated individuals with high levels of processing ability, the formation may even involve meta-cognitive processing, i.e. thoughts about one’s own thought or thinking processes (Bhoner & Dickel, 2011). Even with people who are motivated and capable of basing their attitudes on deep-level cognitive processing, the so-called *selective exposure* may prevent informed attitude formation from taking place. Selective exposure refers to the tendency of avoiding challenging information which enables people to hold on to their old attitudes (Albarracín & Vargas, 2010).

Quite often, people are not motivated to invest energy in attitude formation. In such situations, individuals may opt to rely on cognitive shortcuts such as simple reliance on “experts” (Ajzen, 2012a). Sometimes such a shortcut can also take the form of a random

association of the attitude object with positive or negative stimuli or bodily sensations that affect the attitude formation (Ajzen, 2012a; Bohnet & Dickel, 2011). An example would be a situation in which meeting a person with a hot cup of tea in one's hand leads to an association with a warm and caring personality.

Persuasion, simply put, is an intentional effort to affect people's attitudes. The experimental study of persuasion became one of the central interests of attitude researchers, especially in the US, after the Second World War, with the aim of explaining the effectiveness of Nazi and Soviet propaganda (Albarracín & Vargas, 2010). Even though the original purpose of persuasion research may have been to develop more effective propaganda, the more recent evidence suggests that strong messages recommending certain behaviours are generally effective only if the potential recipients themselves are willing to comprehend and approve the conclusion of the communication (Albarracín & Vargas, 2010). In other words, people's attitudes are usually affected only if they accept to be persuaded. On the other hand, when people encounter an unwanted persuasion effort, it usually leads to resistance, counterargument, and future avoidance of such messages (Albarracín & Vargas, 2010).

2.3.3 The influence of attitudes on behaviour

The popularity of attitudinal research has been based on the assumption that attitudes can predict and explain social behaviour. However, as reasonable as it appears, empirical evidence has not always supported this assumption (Ajzen & Fishbein, 2005; Ajzen & Gilbert Cote, 2008; Mahzarin & Heiphetz, 2010). Especially the so-called global attitudes, which are very general and de-contextualised perceptions, have been found to be poor predictors of any particular action (Ajzen, 2012a; Ajzen & Gilbert Cote, 2008). Researchers have blamed, for example, poor validity of measurement instruments or varying contextual factors for the weak attitude-behaviour correlation (Ajzen & Fishbein, 1980; Ajzen & Fishbein, 2005; Bizer et al., 2003). Another, quite obvious, explanation could be irrationality and impulsivity of human beings (Bizer et al., 2003). A person who generally has a negative attitude towards greasy food and obesity may nonetheless occasionally find himself dining in a fast food eatery. Whatever the reason, it seems clear that study designs which try to relate very general attitudes with very specific context and behaviour are destined to fail (Ajzen & Fishbein, 2005). Furthermore, even when one can find mutual consistency between attitudes and behaviour, it may be due to behaviour having an effect on attitudes. Quite often the most convenient solution for contradiction between attitudes and behaviour is to revise one's attitudes to correspond to one's actions, not vice versa (Bizer et al., 2003).

The *theory of planned behaviour* (TPB) (Ajzen, 1985) and its predecessor, the *theory of reasoned action* (TRA) (Ajzen & Fishbein, 1980), are efforts by Ajzen and Fishbein to narrow the causality gap between attitude and behaviour. According to the TPB (see Figure 3), a person's *attitude toward the behaviour* (a favourable or unfavourable evaluation of the behaviour) is more determining than the general attitude towards the behaviour object. This means, for example, that a teacher who has a negative attitude towards students with disabilities may still be willing to teach in an inclusive classroom, if she believes it leads to a more positive outcome than refusing to teach. In the TPB, the other

two major factors that influence human action, in addition to *attitude toward the behaviour*, are *subjective norm* (perceived social pressure to perform or not perform the behaviour) and *perceived behavioural control* (perceived capability to perform the behaviour). Together, these three factors form the *behavioural intention*. The relative importance of the three factors on *intention* varies case by case. Finally, the *behavioural intention* mediates the effect of the three influencing factors to the *behaviour*. The path from *behavioural intention* to the *behaviour* is also affected by *actual behavioural control*, which refers to the extent to which a person has the resources, skills, and other preconditions to perform a given behaviour. Thus, the TPB acknowledges that performance is not only dependent on the intentions but also on the level of actual control over the events (Ajzen, 2005 2012b; Ajzen & Cote, 2008).

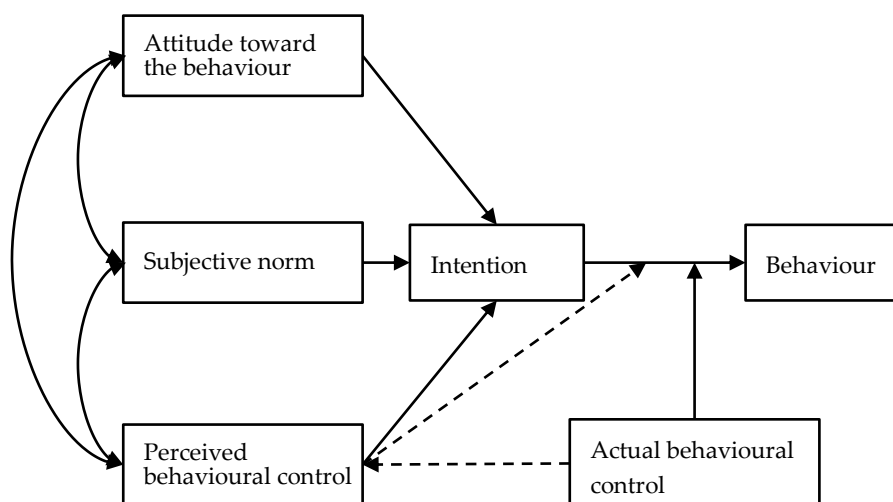


Figure 3: Theory of planned behaviour (Adapted from Ajzen, 2012b).

2.3.4 Teacher attitudes towards inclusive education

In their review study, de Boer, Pijl, and Minnaert (2011) concluded that the majority of teachers seem to hold undecided or negative attitudes towards inclusive education. Another important finding is that teachers' attitudes towards inclusion are often not based on ideological arguments, but rather on practical concerns about how inclusive education can be implemented (Burke & Sutherland, 2004; Scruggs & Mastropieri, 1996). Also, in mainland China, general education teachers' evaluations have been found to be somewhat indecisive (Malinen, 2007). Some Chinese studies suggest that attitudes are slightly positive (Peng, 2000; Peng, 2003; Wan & Huang, 2005), other studies have found attitudes towards inclusive education to be clearly negative (Wei, Yuan, & Liu., 2001; Wei & Yuen, 2000), and in some studies the majority of teachers did not take any stance and responded that their perceptions were dependent on the particular circumstances (Wang,

Peng, & Wang, 2011). In conclusion, in mainland China teachers' attitudes appear to change greatly in a negative direction if they are asked to accept students with disabilities into their own classrooms (Chen, Zhang, Shi, Wang, & Wu, 2006; Li, 2010; Ma & Tan, 2011).

2.3.5 Relationship between attitudes and self-efficacy

Self-efficacy and *attitudes* are the two main theoretical concepts of this dissertation. As mentioned, both of these concepts have received considerable attention in the behavioural sciences research community. In addition, the popularity of both self-efficacy and attitude research stems from the assumption that they can be used to predict and interpret human actions. In the previous sections of this dissertation, I also introduced two competing models of explaining human behaviour. The first model, developed by Bandura (2012), belongs to the circle of self-efficacy studies. The other model, the *theory of planned behaviour*, is based on the work of Ajzen and Fishbein (1980) and is linked to the tradition of attitude research.

With the aim of comparing the Bandura model with the *theory of planned behaviour*, I have gathered some of the main components of these theories, together with their respective definitions, into Table 4. Even a quick glance at Table 4 unveils obvious similarities between the main concepts of the two theories. One pair of components, *self-efficacy* and *perceived behavioural control*, are conceptually practically identical, while two other pairs, *outcome expectations* and *attitude toward behaviour* as well as *goals* and *intentions* are very much alike. Even the last pair of concepts, *sociostructural factors* and *subjective norm*, appears to bear some similarity, even though in the latter the emphasis is more on the perceived social pressure from other human beings, while the Bandura concept *sociostructural factors* seems to cover the wider environmental influences. Nevertheless, in the TPB, this wider environmental context is included in another concept, namely *actual control*.

Table 4: Comparison of the concepts in Bandura's (2012) model of explaining human behaviour and in the theory of planned behaviour (TPB) (Ajzen & Gilbert Cote, 2008).

| Bandura's concept | Definition | TPB concept | Definition |
|--------------------------|---|-------------------------------|--|
| Outcome expectations | "material costs and benefits, social detriments and benefits, and positive and negative self-evaluative reactions to one's own behaviour" (Bandura, 2012) | Attitude toward behaviour | "favorable or unfavorable evaluation of the behaviour" (Ajzen & Gilbert Cote, 2008) |
| Self-efficacy | "people's beliefs about their capabilities to produce designated levels of performance" (Bandura, 1994) | Perceived behavioural control | "perceived capability to perform the behaviour" (Ajzen & Gilbert Cote, 2008) |
| Goals | not found | Intentions | "an indication of a person's readiness to perform a given behaviour" (Ajzen, 2012b) |
| Sociostructural factors | "structural characteristics of ... environment – the impediments it erects and the opportunity structures it provides" (Bandura, 2012) | Subjective norm | "perceived social pressure to perform or not to perform the behaviour" (Ajzen & Gilbert Cote, 2008) |
| | | Actual control | "the extent to which a person has the skills, resources, and other prerequisites needed to perform a given behaviour" (Ajzen, 2012b) |

Given the similarity between the main elements of the Bandura (2012) and Ajzen (2012b) models, one could be tempted to hypothesize that the main concepts of this dissertation, *self-efficacy* and *attitudes*, could be fitted into one single model of predicting human behaviour. The model presented in Figure 4 is a product of such intellectual exercise. This model is an adapted version of the Bandura model (see Figure 2) in which the original concept *outcome expectations* has been replaced by its close equivalent, *attitude toward the behaviour*, from the Ajzen model. In the adapted model, there is a causal path leading from *self-efficacy* to *attitude toward the behaviour*. This causal relationship means that a person's perceived self-efficacy in a given domain would have an effect on his attitudes towards this domain or action. In the framework of this dissertation, it would suggest that those teachers with higher levels of self-efficacy for inclusive teaching would also possess more positive attitudes towards inclusive education.

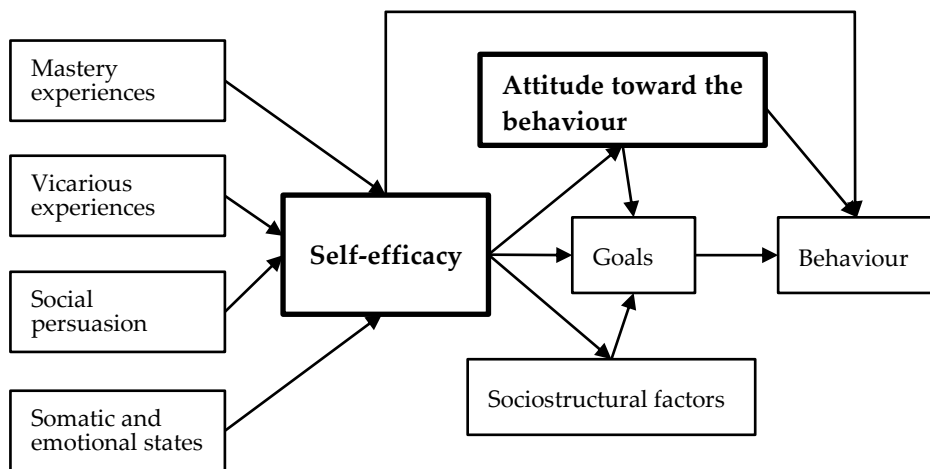


Figure 4: Combined model of predicting human behaviour. The model is based on Bandura's (2012) model of predicting human behaviour in which the original component "outcome expectations" has been replaced by the concept "Attitude toward the behaviour" from Ajzen's (2012b) theory of planned behaviour.

It would be easy to label the above model (Figure 4) in which self-efficacy predicts attitudes as an abstract speculation, with no real connections to the empirical world. Interestingly, though, research findings on teachers and inclusive education suggest that such a positive relationship may exist between teachers' self-efficacy and their attitudes towards inclusive education. Meijer and Foster (1988) discovered that Dutch teachers with higher self-efficacy were more likely to feel that it was appropriate to place a problem student in a regular classroom. Weisel and Dror (2006) concluded that elementary school teachers with a high level of perceived self-efficacy had more positive perceptions towards inclusive education. Furthermore, the results of Soodak, Podell, and Lehman (1998) indicated that there was an association between general educators' teacher efficacy and receptivity towards inclusion. In addition, Brownell and Pajares (1999) revealed that teacher efficacy beliefs had a direct effect on their perceived success in instructing special education students studying in regular classrooms. Moreover, Almog and Shechtman (2007) concluded that teachers with higher teacher efficacy coped better with several types of student problem behaviours. Additionally, Savolainen, Engelbrecht, Nel, and Malinen (2012) discovered that the self-efficacy, especially efficacy in collaboration, had a positive relationship with the attitudes towards inclusive education. Finally, a recent study from mainland China by Zan, Liu, Wang, and Sharma (2011) observed that teachers with high self-efficacy for inclusive practices had lower levels of anxiety about inclusive education.

3 Aims and methods

3.1 MAIN AIMS

The general aim of this dissertation is to examine inclusive education from teachers' perspective particularly in the context of mainland China. In relation to inclusive education, the present dissertation concentrates on two concepts – self-efficacy and attitude. The detailed aims of this dissertation, with references to the original publications, are presented in the below text and Figure 5.

The first aim is to examine teacher self-efficacy related to inclusive education. In this dissertation, both factor structure of self-efficacy (II–IV) as well its relationship with demographic variables (III & IV, and to a lesser extent II) receive considerable attention.

The second aim is to investigate attitudes towards inclusive education. In the current dissertation, the attitudes are operationalized by either general perception towards different aspects of inclusive education (I–III) or as more specific ratings of the optimal educational placement for students with different types of disabilities (I). Furthermore, the relationship between attitudes and demographic variables is also studied in this dissertation (I & II).

The third and final aim of this dissertation is to study the relationship between the teacher self-efficacy and attitudes towards inclusive education. This is the main theme of one study (II), but one other study (III) also touches upon this issue.

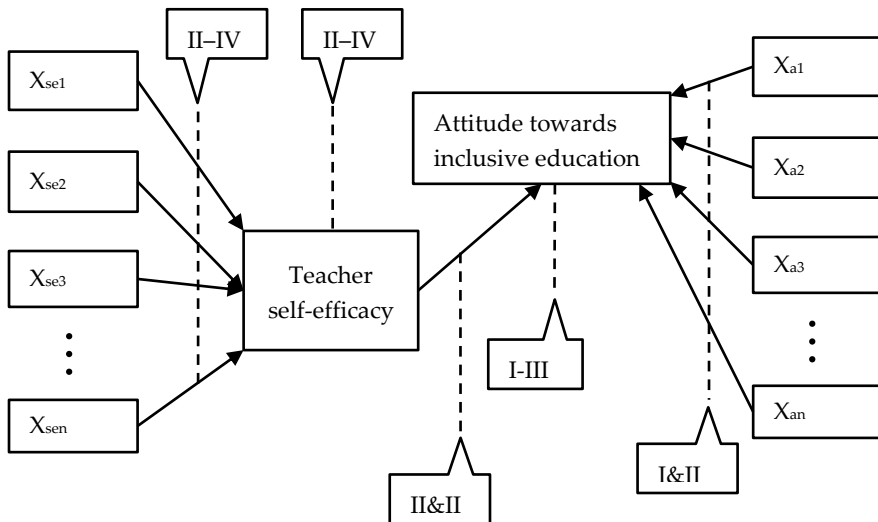


Figure 5: Main aims of this dissertation. X_{se1} – X_{sen} and X_{a1} – X_{an} represent independent measured variables. I–IV refer to the individual articles, and the dotted lines point out the phenomena or interactions these articles were studying.

3.2 SAMPLES AND PARTICIPANTS

The first original publication (I) of this dissertation is an individual study based on the author's Master's thesis. The three other studies (II-IV) have been done as a part of a *Comparative Analysis of Teachers' Roles in Inclusive Education* project, which is an international research project involving six countries, namely China, Finland, South Africa, England, Lithuania, and Slovenia. The main purpose of the project is to produce a knowledge base on how the development of inclusive education and its implementation in classrooms look from a teacher's perspective. One of the practical implications of the project is the development of more effective pre- and in-service teacher education programmes in the participating countries.

3.2.1 Study I

In study I, the data was drawn from 523 Chinese students. The majority of the participants (75.7 %) studied in normal universities (*shifan daxue*) that have teacher education as their main function. About one-fifth (20.5%) of the participants were university (*daxue*) students, while the remaining 3.8 % studied in other institutions. The data was collected by a quantitative questionnaire form using a convenience sampling. Most participants (472) completed the paper version of the questionnaires which were hand-delivered and -collected by the author in two normal university campuses in Beijing. The remaining participants (51) completed the questionnaire via internet.

3.2.2 Study II

In study II, the data was obtained from 451 primary (*xiaoxue*) and middle school (*zhongxue*) in-service teachers from Beijing municipality. Of the participants, 324 (71.8 %) were working in regular schools and 112 (24.8 %) in special education schools. Most participants were reached with the assistance of teachers who participated in a municipality-level training programme on inclusive education. At the end of one training session, the author gave each teacher approximately ten questionnaires which they handed out to teachers in their own districts and counties. The filled-in questionnaires were hand-collected from the assisting teachers by the author a week later during another training session. A smaller number of participants filled in the questionnaires in district-level teacher training sessions where the author or his assistant handed out and collected the questionnaires.

3.2.3 Study III

In study III, the data was collected from 552 Chinese students from three institutions who all have teacher education as their main function. Of the participants, 126 (22.8 %) studied in a normal university located in Chongqing, a major city in south-western China, 258 participants (46.7 %) were students in a normal university in Beijing, and 168 participants (30.4 %) studied in a special education college located in Beijing. The data collection took place mostly during gatherings where the author or his assistant handed out and collected the questionnaires. These gatherings were in most cases part of students' ordinary coursework.

3.2.4 Study IV

In study IV, the sample consisted of the responses of 451 Chinese, 855 Finnish, and 605 South African (SA) in-service teachers. The Chinese sample was the same as in study II and has already been described above. The Finnish participants were teaching in either primary schools (grades 1–6), in lower secondary schools (grades 7–9), or in unified comprehensive schools (grades 1–9). In the Finnish sample, 295 (34.5 %) teachers worked in schools located in Eastern Finland region. These questionnaires were delivered to the schools in paper format as a part of a research and development project related to inclusive education. The other remaining 560 (65.5 %) Finnish participants were teachers from one city in south-western Finland who responded to the electronic version of the questionnaire via internet. The South African data collection was carried out by researchers from two local universities. The total sample consisted of two sub-samples that were both collected by using paper format questionnaires. The first SA sub-sample that consisted of the responses of 322 teachers (53.2 % of the SA participants) was collected from the Vaal Triangle area, while the other sub-sample was provided by 283 teachers (46.8 % of the SA participants) residing throughout the provinces.

3.3 MEASUREMENTS

All the questionnaires used for the data collection in studies I–IV were first written in English and then translated into Chinese (I–III) or into Chinese, Finnish, and Afrikaans (IV). The process of questionnaire translation for individual studies is described in more detail in the original publications and the *Methodological considerations* chapter of this dissertation.

In study I, the main measurement instruments were two quantitative scales. The first scale, which was developed by Moberg (1997), has 20 items that assess general attitudes towards inclusive education. The second scale was a 16-item instrument that asks respondents to rate the optimal educational placement for students with different types and levels of disability (Moberg & Savolainen, 2003). In this scale, the options for educational environment varied according to their inclusivity from 1 = *full-time in an ordinary classroom* to 6 = *full-time in a special institution*. This scale is designed to measure the practical question of where students with disabilities should be placed, more than some underlying construct like attitude or self-efficacy.

In all three other studies (II–IV), the Teacher Self-Efficacy for Inclusive Practices (TEIP) scale was used to measure participants' self-efficacy related to teaching in inclusive classrooms with diverse learners. The TEIP scale (Sharma, Loreman, & Forlin, 2012) is an 18-item instrument with six response anchors ranging from *Strongly Disagree* to *Strongly Agree*. Two studies (II, III) also contained a measurement of attitudes towards inclusive education using the Sentiments Attitudes and Concerns about Inclusive Education (SACIE) scale. The SACIE scale has 15 items with four response anchors from *Strongly Agree* to *Strongly Disagree*.

In addition to the above-mentioned scales, all the questionnaires (I–IV) had items dealing with respondents' demographic characteristics. There was some variation between the demographic information items included in the different questionnaires,

even though some questions, such as participants' gender and age, were found in all the questionnaires.

3.4 STATISTICAL ANALYSES

Below is a description of statistical analyses used in this dissertation. All the analyses were conducted using SPSS software (IBM, 2012) versions 15–19 or Mplus package (Muthén & Muthén, 1998–2010) versions 5.2–6.1.

3.4.1 Structural equation modelling with measured and latent variables

The main analysis techniques of this dissertation were confirmatory factor analysis (CFA) and structural equation modelling (SEM). In studies II–IV, CFA was used to test the dimensions of teacher self-efficacy for inclusive practices. In study III, the CFA model also included an additional second-order latent variable that represented the general teacher self-efficacy for inclusive practices. In study I, CFA was not included in the original publication, which reported an exploratory factor analysis on the structure of attitudes towards inclusive education. Nevertheless, CFA for study I data was added to this dissertation to confirm the attitude dimensions reported in the original publication. In studies II and IV, SEM models were built on the basis of the CFA models. In these studies, SEM was used to investigate the relationship between self-efficacy and attitudes related to inclusive education (II) and the effect of demographic variables on self-efficacy (IV).

With all the CFA and SEM models in this dissertation, the standard MAR (missing at random) approach was applied (Muthén & Muthén, 1998–2010) to guarantee maximum use of available data. The MAR approach for analysis is a standard procedure which enables maximal use of available information. If a case has missing information e.g. on a single item of a scale, the case will not be dropped out of the analysis as is would be in the case of a traditional listwise deletion model. The model calculation will be carried out with whatever information is available for each case. For example, in study IV, a relatively small number of cases from the total 1911 had missing values for several TEIP scale items; thus, using the MAR approach for handling the missing data was justifiable. The CFA model of study III was estimated by using maximum likelihood estimation (ML), while in studies I, II, and IV the estimation was done with full-information maximum likelihood estimation (MLR), which is more robust to non-normality and non-independence of observations than the regular ML (Muthén & Muthén, 1998–2010).

To assess the goodness of fit of the models, well-known indices, CFI, TLI, RMSEA, SRMR, and a chi-square test were used. For the CFI and TLI indices, values greater than .90 indicate an acceptable fit to the data, and values greater than .95 are typically considered to reflect a good fit to the data. RMSEA values smaller than .08 and SRMR values smaller than .06 indicate a good fit (Hu & Bentler, 1999).

3.4.2 Other analysis methods

The other analysis methods in this dissertation included explorative factor analysis, analysis of variance (ANOVA), t-tests, correlation, and descriptive statistics. In study I, principal axis factor analysis was used to study the structure of attitudes towards inclusive education. Furthermore, ANOVA was used in two studies to assess the relationship of participants' major subject and attitudes towards inclusive education (I) as well as relationship between major subject and teacher self-efficacy for inclusive practices (III). In addition, a series of t-tests were conducted to study the connection that demographic variables had with attitudes (I) or with self-efficacy (III). Connections between variables were also investigated by calculating sets of correlations (I & III). Finally, descriptive statistics were used in all studies (I-IV), primarily for the purpose of describing the participants' characteristics.

Table 5: Summary of the aims, data collection, and analysis in studies I-IV.

| Study | Main aims | Participants | Data sources and scales | Concepts | Measured variables | Analysis |
|-------|--|--|--|---------------------------|--|---|
| I | Investigate attitude towards IE Study the relationship of attitudes and demographic variables Examine the ratings of most suitable educational placement for students with different types of disabilities | 523 Chinese university students | 20-item scale assessing general attitude towards IE 16-item scale for rating the optimal educational placement of students with different disabilities Demographic information items | Attitude | Attitude scale scores Educational placement scale scores Demographic variables | Principal axis factor analysis Analysis of variance T-test Correlations Descriptive statistics |
| II | Examine the structure of teacher self-efficacy Study the relationship of self-efficacy, demographic variables, and attitude towards IE | 451 in-service teachers from Beijing municipality | TEIP scale SACIE scale Demographic information items | Attitude Self-efficacy | TEIP scale scores SACIE scale scores Demographic variables | Confirmatory factor analysis Structural equation modelling Descriptive statistics |
| III | Study the validity of the TEIP scale Investigate the structure of teacher self-efficacy Examine the relationship of self-efficacy, attitude, and demographic variables | 552 Chinese normal university and special education college students | TEIP scale SACIE scale Demographic information items | Attitude Self-efficacy | TEIP scale scores SACIE scale scores Demographic variables | Confirmatory factor analysis Structural equation modelling Analysis of variance Correlations T-test |
| IV | Test a hypothetical model of explaining teacher self-efficacy Build separate models for China, Finland, and South Africa Compare the country models | 451 Chinese, 855 Finnish, and 605 South African in-service teachers | TEIP scale Demographic information items | Self-efficacy | TEIP scale scores Demographic variables | Confirmatory factor analysis Structural equation modelling |

4 Results and discussion

4.1 TEACHER SELF-EFFICACY FOR INCLUSIVE PRACTICES

Based on the analysis of articles II–IV, it seems that the teacher self-efficacy for inclusive practices is a multidimensional construct that can be divided into at least three factors which in this dissertation have been given the names *Efficacy in inclusive instruction*, *Efficacy in collaboration*, and *Efficacy in managing behaviour*. This seems to apply in varying contexts, since the same structure could be confirmed in China (II–IV) as well as in Finland and South Africa (IV). In addition, the above-mentioned three factors seem to be strongly correlated (II–IV), and the analysis of article III suggests that they can also form a second-order factor that represents the general teacher self-efficacy for inclusive practices. The factor model of article III is shown in Figure 6.

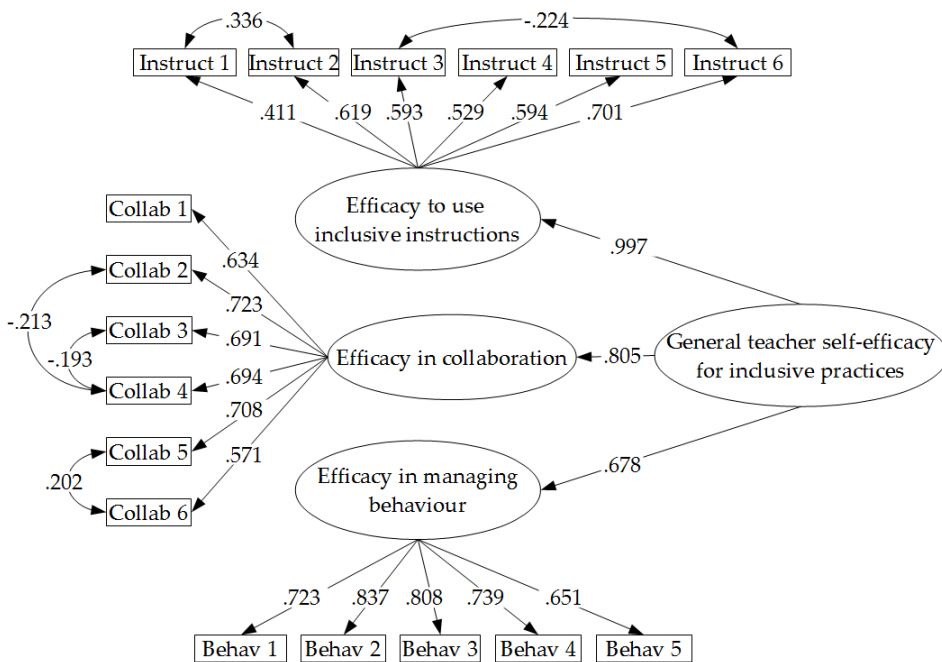


Figure 6: Factor structure of teacher self-efficacy for inclusive practices (III).

Table 6 shows information that is not found as such in any individual article. The numbers in the table show that the participants' overall level of teacher self-efficacy was relatively high in Chinese pre-service (III) and in-service teacher (II & IV) samples as well as in Finnish and South African in-service teacher samples (IV). The mean scores for total TEIP scale (the scale ranged from 1 to 6) were 4.44 (SD = 0.55) for Chinese pre-service

teachers, 4.67 (SD = 0.53) for Chinese teachers, 4.53 (SD = 0.59) for Finnish teachers, and 4.84 (SD = 0.65) for South African teachers. This means that in all three countries the participants, on average, fell between 4 = *agree somewhat* and 5 = *agree* in their responses to TEIP scale items. The generally high level of teacher self-efficacy is quite understandable if we remember that the respondents were a selective group of people. A person who responds 1 = *strongly disagree* to an item such as *I can control disruptive behaviour in the classroom* would probably not even consider becoming a teacher.

The mean scores of TEIP subscales and their respective 95 % confidence intervals (Table 6) show differences between countries, and between Chinese pre-service and in-service teachers. The Chinese pre-service teachers' self-efficacy was highest in the collaboration dimension and lowest in the managing behaviour dimension. Chinese in-service teachers, however, scored significantly higher in managing student behaviour than in inclusive instruction. On average, Chinese pre-service teachers' evaluations do not seem to indicate over-estimation of one's capabilities since they scored consistently lower than Chinese in-service teachers in all three dimensions of teacher self-efficacy for inclusive practices. Finnish teachers rated themselves highest in instruction and lowest in managing behaviour, while South African teachers felt least capable in collaborating with parents, colleagues, and other professionals.

It is questionable whether it is possible to make meaningful interpretations based on cross-country comparisons of self-efficacy scores. Perceived self-efficacy can be considered as a relative measure that is connected to the contextual factors and social standards in a given country. Nevertheless, even with a certain level of precaution, one can notice that, in Finland, teachers' self-efficacy in preventing and managing disruptive student behaviour (mean 4.28, SD = 0.81) seems to be lower than in China (mean = 4.76, SD = 0.66) and much lower than in South Africa (mean = 4.94, SD = 0.72).

Table 6: Mean scores and 95 % confidence intervals of attitudes and perceived teacher self-efficacy of inclusive practices.

| | China pre-service teachers | | | China teachers | | | Finland teachers | | | South Africa teachers | | |
|----------------------------------|----------------------------|----------|----------|----------------|----------|----------|------------------|----------|----------|-----------------------|----------|----------|
| | Mean | Lower CI | Upper CI | Mean | Lower CI | Upper CI | Mean | Lower CI | Upper CI | Mean | Lower CI | Upper CI |
| SACIE¹ | 2.51 | 2.48 | 2.53 | 2.61 | 2.59 | 2.65 | 2.51 | 2.48 | 2.54 | 2.57 | 2.53 | 2.61 |
| TEIP² | 4.44 | 4.39 | 4.49 | 4.67 | 4.63 | 4.73 | 4.53 | 4.49 | 4.57 | 4.83 | 4.77 | 4.88 |
| Instruction³ | 4.46 | 4.41 | 4.51 | 4.64 | 4.58 | 4.69 | 4.60 | 4.56 | 4.64 | 4.87 | 4.82 | 4.93 |
| Collaboration⁴ | 4.62 | 4.56 | 4.68 | 4.64 | 4.58 | 4.71 | 4.50 | 4.45 | 4.55 | 4.66 | 4.59 | 4.73 |
| Behaviour⁵ | 4.23 | 4.18 | 4.29 | 4.75 | 4.69 | 4.82 | 4.28 | 4.23 | 4.33 | 4.94 | 4.88 | 5.00 |

¹The SACIE scale items are rated from 1 to 4, which represents the most positive attitude

²The TEIP scale items are rated from 1 to 6, which represents the highest level of self-efficacy

³TEIP subscale *Efficacy in inclusive instruction*

⁴TEIP subscale *Efficacy in collaboration*

⁵TEIP subscale *Efficacy in managing behaviour*

4.1.1 Relationship between demographic variables and teacher self-efficacy for inclusive practices

With regard to the relationship between demographic variables and teacher self-efficacy for inclusive practices, one phenomenon was common to China, Finland, and South Africa. In all three countries, teachers' previous experience in teaching students with disabilities explained significantly ($p < .000$) their level of self-efficacy for teaching in inclusive settings (IV). This finding, which was consistent across cultures, is coherent with the theory of self-efficacy. Experience in teaching students with disabilities can be seen to represent *mastery experiences*, which are commonly seen as the most important source of efficacy evaluations.

The other explanatory variables of self-efficacy varied from country to country. For example, in the Chinese model shown in Figure 7, the level of self-efficacy was connected to the type of school (special education or mainstream education school) so that special education school teachers scored higher in the efficacy in collaboration dimension whereas mainstream school educators felt themselves more successful in managing student behaviour. In Finland, all three self-efficacy dimensions were positively affected by a higher amount of training related to inclusive education. In addition, Finnish male teachers had higher self-efficacy in managing disturbing student behaviour than their female colleagues. In South Africa, previous interactions (not necessarily in the school context) with persons with disabilities predicted positively all three self-efficacy dimensions. Among South African teachers, the older respondents scored higher especially in the efficacy in collaboration but also in efficacy in managing behaviour. The variation in different country models of explaining self-efficacy suggests that there are some contextual and/or cultural differences in the ways the efficacy beliefs are formed.

Among Chinese pre-service teachers, major subject had a significant connection with perceived self-efficacy, and the education, early childhood education, and special education majors' average level of self-efficacy for inclusive practices was not particularly high compared to other major subject groups (III). Even though this finding may appear to contrast intuitive thinking, it can be explained by Bandura's (2012) idea that too little knowledge about the requirements of a given task may sometimes lead to unrealistically high efficacy beliefs. Educational sciences majors who assumedly have received more training and knowledge about inclusive education may possess more realistic efficacy beliefs that reflect quite well their actual level of competence. On the other hand, other pre-service teachers that do not have inclusive education as a core content of their studies may have not yet fully comprehended the difficulties of teaching in inclusive classrooms. Therefore, they may have more inflated teacher self-efficacy that is not connected to their actual competence as inclusive teachers.

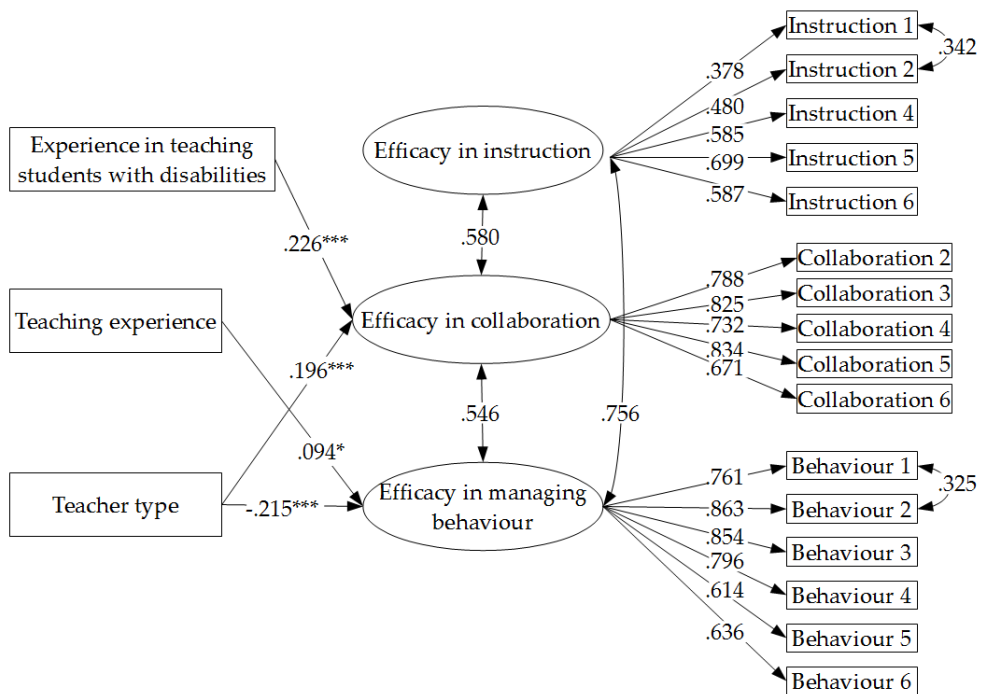


Figure 7: Chinese model for explaining teacher self-efficacy for inclusive practices (IV).

4.2 ATTITUDES TOWARDS INCLUSION AND THE BEST EDUCATIONAL PLACEMENT OF STUDENTS WITH DISABILITIES

In studies (I-III), which investigated perceptions related to inclusive education, the participants held somewhat neutral general attitudes towards inclusion. Results remained approximately the same, even though two different attitude scales and three Chinese sample populations were used in the individual studies. In study I, which had the structure of the attitudes as one main research question, four attitude dimensions were extracted. These dimensions were named as *Social justice*, *Meeting the special needs of the pupils with severe disabilities*, *Quality of education*, and *Teachers' competence*. In two other studies (II & III), attitudes were measured by the SACIE scale. It was assumed that SACIE could be divided into three dimensions that the developers of the scale had named as Sentiments, Attitudes, and Concerns. Contrary to the expectations, these assumed subscales did not have adequate alpha coefficient reliability in the samples. Therefore, in this dissertation, the SACIE scale was used only as one dimensional measure of general attitude towards inclusive education.

As mentioned in section 3.3, in one study (I) participants were asked to choose a most suitable educational environment for students with different types and levels of disability. From different disability types, the most inclusive environment was recommended for students with visual impairment and the least inclusive environment for students with intellectual disability. In regard to the severity of disability, the more

restrictive environment was consistently recommended for students with severe levels of disability.

4.2.1 Relationship between demographic variables and attitudes towards inclusive education

In the university student sample of study I, those participants who had positive experiences from people with disabilities held more positive attitudes in the dimension *Quality of education for non-disabled students*. Quite similarly, among the in-service teachers, a higher level of experience in teaching students with disabilities predicted positive general attitudes towards inclusion (II).

The university student participants who majored in behavioural sciences (i.e. education, early childhood education, special education, or psychology) had the most negative general perception about inclusion (I). One potential explanation for this phenomenon may be the behavioural sciences majors' assumedly stronger knowledge of inclusive education enabled them to identify more challenges in its implementation. By using the concepts of Ajzen's *theory of planned behaviour* (see Figure 3), this would mean that more accurate knowledge about the *actual behavioural control* results in a lower sense of *perceived behavioural control* which in turn has a negative effect on the *attitude towards the behaviour*.

4.3 RELATIONSHIP BETWEEN ATTITUDES AND TEACHER SELF-EFFICACY FOR INCLUSIVE PRACTICES

When the relationship between self-efficacy and attitudes was tested, there was a relatively strong positive correlation ($r = .33$, $p < 0.001$) between pre-service teachers' general teacher efficacy for inclusive practices and attitudes towards inclusive education (III). In another model, presented in Figure 8, the effect of different self-efficacy dimensions on attitudes was tested. In this model, the only factor that significantly predicted (Beta = .358, $p < 0.001$) attitudes was efficacy in collaboration (II).

Figure 5 presents an adapted version of Bandura's (2012) model of predicting human behaviour. In this theoretical model, *self-efficacy* acts as a predictor of *attitude towards the behaviour*. The findings of this dissertation provide a certain level of support to the existence of such connection. Nevertheless, the moderate levels of correlation and beta coefficients indicate that there are also other factors that affect the attitudes. In addition, the cross-sectional nature of the data used in this dissertation leaves room for speculation about the direction of the effect between self-efficacy and attitudes.

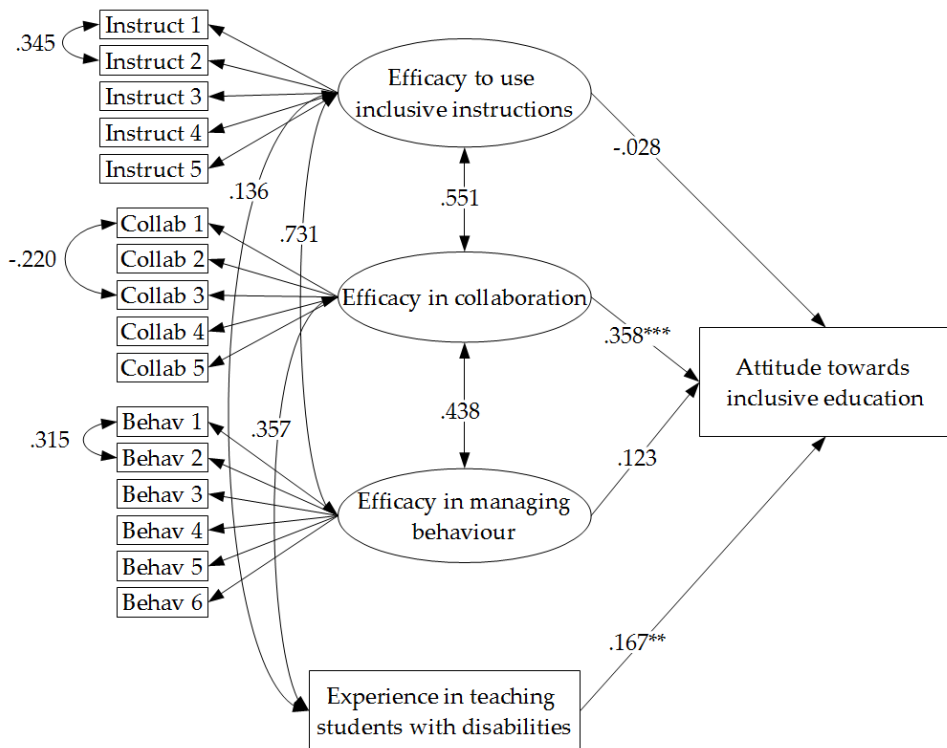


Figure 8: SEM for explaining attitudes towards inclusive education (II).

4.4 PRACTICAL IMPLICATIONS

The participants' attitudes towards inclusive education were not particularly positive, and they did not seem to change simply by providing more knowledge about inclusive education. Instead, there has to be real changes in the practical realities of schools, the education system, and the educational culture before inclusion will be seen as a more desirable and realistic goal.

To start with the educational culture and education system in China, inclusive education would require a shift from the highly competitive school culture and strictly academic-oriented curriculum that is implemented by emphasising memorisation and whole-group instruction to education that respects individual ways of learning and sees the personal growth of every child as a more pressing priority than academic excellence as measured by standardized tests. Within the scope of this dissertation, however, changing the entire Chinese educational culture is not a feasible goal. Chinese people have been inclined to exam-oriented and highly competitive rote learning practices at least since the early 7th century A.D., when the *kējū* (imperial examination) system was introduced to select the administrative officials for government positions. The problems related to compulsory school students' heavy work-load and over-packed curriculum are already widely recognized, and the Chinese government has plans to tackle the issue (CPG, 2010). Therefore, I aim to make a much more modest contribution by giving suggestions on how individual schools, teachers, and teacher education institutions could

use the findings of this dissertation to develop their practices. By the same token, I acknowledge that the schools in Beijing municipality, the Chinese region with which I am most familiar, have already taken significant steps towards this direction.

There is no doubt that teachers play a central role when it comes to the implementation of inclusive education. Based on the results of this dissertation, pre-service and in-service teachers' opposition towards inclusion could be reduced by increasing their sense of teaching competence. Again, according to this dissertation, an effective way to increase inclusive education teacher self-efficacy is to gain experiences from successful inclusive teaching. To make the argument even stronger, this same tendency was found in China, Finland, and South Africa. How can an educational environment then ensure that teachers receive these mastery experiences? My answer is: with adequate support. Without support, it is very likely that teachers' experiences will become discouraging in nature. Support can come in many forms. It can come in a traditional form of formal training programmes organised by universities and other training institutions. It can come in a form of more informal exchanges of ideas between experienced expert teachers and junior colleagues or other collaborative problem-solving among teachers who struggle with the same issues.

It would be essential to provide more mastery experiences from teaching diverse learners in initial teacher education. Previously, pre-service teachers in China have gained very limited teaching experience during their studies. Pre-service teachers have typically had only six to eight weeks practicum experience before their graduation (Han, 2012). Fortunately, this situation may be changing. The new National Curriculum Standards for Teacher Education (Ministry of Education of the People's Republic of China, 2011b) stipulate that, in the future, teacher education programmes should include at least 18 weeks practicum. It would be beneficial if the pre-service teachers would spend at least part of this 18-week period in inclusive classrooms.

One key finding of this dissertation is that those teachers who rate themselves as effective collaborators identify less threat in inclusive education. Therefore increasing collaboration seems to be one essential way to build more inclusive schools. All teachers should start to learn during their initial teacher education how to work together with colleagues, parents, and other professionals, and this learning should continue throughout the teaching career. However, teachers' willingness to collaborate is not enough if the school structures prevent collaboration from taking place. This means that teachers should have places (physical or virtual) and time (within working hours) to plan, teach, and reflect with their colleagues, seek help from outside experts, and communicate with families.

Fortunately, the officially registered schools in Beijing municipality, where the in-service teacher participants of this dissertation work, already present many examples of supportive and collaborative practices. Many of these examples came out in the interviews I conducted in Beijing schools during the spring 2012 (27 Beijing teachers, personal communication, March 23 – 12 April, 2012). One positive case of collaboration

between teachers comes from a primary school where the *head teachers* (*bānzhǔrèn*)¹ of the same grade level share an office where they meet regularly and discuss the problems they encounter in their work.

In another primary school, teachers described the activities of their so-called *teaching-study groups* (*jiàoyánzǔ*). *Teaching-study groups* that are commonly found in Chinese schools are typically subject-based groups that meet regularly to engage in the improvement and study of teaching (OECD, 2011, p. 88). One core activity of these groups is to draft detailed lesson plans that all members of the group are expected to follow during the upcoming classes. In addition to lesson planning, teachers in this particular school also observed their group members' lessons and, based on the observation, provided feedback for how to improve teaching.

Besides working together with colleagues, communicating with families is another important form of collaboration that helps teachers to prevent and solve problems. According to the interviews (27 Beijing teachers, personal communication, March 23 – 12 April, 2012), teachers in the visited Beijing schools already communicate with parents quite frequently through phone calls, text messages, and face-to-face meetings. In one of the schools, teachers also used a digital tool called *Home-school interaction platform* (*Jiāxiào hùdòng píngtái*) to stay in contact with the families. Through this platform, the school can inform families about school events, or teachers and parents can exchange quick messages about individual student affairs.

As described, teachers in Beijing schools are already involved in a range of collaborative practices that have a potential to be effective tools of professional development. In certain aspects, however, they may have a negative effect when it comes to implementing inclusive education. Collaborative practices in Chinese schools also serve the function of ensuring that every teacher follows the centralized national curriculum. If this is interpreted to mean that every class and every student should be taught exactly the same way, it discourages teachers to adapt their instruction according to students' individual educational needs. If Chinese schools can overcome this challenge, *teaching-study groups* and other co-operative ways of working have a strong potential of becoming units of collaborative problem-solving and collegial support for struggling teachers.

One significant structural factor that enables collaboration to take place in Chinese schools is the fact that teachers often teach only a few lessons per day. Therefore, compared to many other countries including Finland, they use less time for teaching in the classroom during their workday. If used effectively, this generous amount of non-teaching time provides a valuable resource for developing both school- and classroom-level inclusive practices.

¹ In Chinese schools, each class usually has a head teacher (*bānzhǔrèn*). In addition to teaching her subject, *bānzhǔrèn* works as a director of a class who has the main responsibility of managing the class and communicating with families.

Table 7: Summary of the main findings and practical implications of the individual articles.

| Study | Main findings | Practical implications |
|-------|--|---|
| I | <p>Attitudes towards IE could be divided into four dimensions: <i>Social justice</i>, <i>Meeting the special needs of the pupils with severe disabilities</i>, <i>Quality of education</i>, and <i>Teachers' competence</i></p> <p>Participants with behavioural sciences as their major subject held the most negative attitude towards IE</p> <p>The ratings for the best educational environment varied according to type and level of disability. The most inclusive environment was recommended for students with visual impairment, and most restrictive environment for students with intellectual disability</p> | <p>The attitude dimensions represent the philosophical as well as the practical aspects of IE. Teacher training programmes should incorporate knowledge about both the principles and the practicalities of IE</p> <p>More knowledge on IE does not seem to guarantee positive attitudes if the practical realities in Chinese schools are not coherent with the official IE policy goals</p> <p>Quality education for students with "hard-to-include" types of disabilities in mainstream settings may require systemic changes in the Chinese regular schools</p> |
| II | <p>Teacher self-efficacy for inclusive practices could be divided into three dimension: <i>efficacy in using inclusive instructions</i>, <i>efficacy in collaboration</i>, and <i>efficacy in managing behaviour</i></p> <p>Teacher self-efficacy in collaboration and previous experience in teaching students with disabilities predicted attitude towards IE</p> | <p>Teachers' collaborative work orientation may be one key feature of inclusive schools. Therefore, school management and teacher education programmes should emphasise collaborations more</p> <p>In order to change attitudes, one should provide teachers supported possibilities to teach classes that have students with disabilities</p> |
| III | <p>The three self-efficacy dimensions can form a second-order factor, <i>General teachers' self-efficacy for inclusive practices</i></p> <p>General teachers' self-efficacy for inclusive practices had moderately strong positive correlation with attitudes towards IE</p> <p>Special education, education, and early-childhood education majors were among the least self-efficacious in the area of IE</p> | <p>Identification of the important sub-domains of overall teacher efficacy helps to target teacher education efforts</p> <p>Higher sense of teaching competence can reduce opposition to IE</p> <p>To prevent inflated efficacy evaluations, pre-service teacher training should provide adequate information and experiences for forming a realistic picture of the demands of teaching in classrooms with diverse learners.</p> |
| IV | <p>Experience in teaching students with disabilities was the strongest predictor of teacher self-efficacy in all countries</p> <p>Other variables that explained self-efficacy differed from country to country</p> <p>From the different self-efficacy dimensions, all country models explained best the efficacy in collaboration</p> | <p>In order to develop efficacy in inclusive teaching, teachers should be provided more opportunities to be involved in such activities</p> <p>Providing targeted experience of teaching students with disabilities seems to be particularly effective in developing teachers' competence in collaborating with parents, colleagues, and other professionals</p> <p>The variations between the country models illustrate the importance of recognising the local context in developing IE policies</p> |

5 Methodological considerations

In this section, I will discuss the methodological issues related to the questionnaire translation and adaptation, and the reliability and structural validity of the main measurement instruments. I will also reflect the challenges of conducting research primarily in China, where the cultural historical context is considerably different from my home country of Finland.

5.1 QUESTIONNAIRE TRANSLATION AND ADAPTATION

When discussing the translation and the adaptation of the Chinese questionnaire, I will refer to the process of studies II–IV. Study IV also utilised data collected with Finnish and South African questionnaires, but I was not deeply involved in the instrument translation and adaptation in these two countries.

The first translation of the Chinese questionnaire was done by a native Chinese who had graduated from an English language translation programme of a Chinese university and was studying in Finland in an educational sciences Master's programme. During the translation process, we met face-to-face and communicated through email about the translation of some key concepts like *disability*. The translation began with two different language versions, which were English and Hong Kong Chinese. From these versions, only the English language questionnaire was treated as the original source material. The Hong Kong Chinese scales that had been translated from the English scales by the developers of the instrument were used as a reference material and a starting point for creating the standard mainland Chinese (Pǔtōnghuà) scales. The most obvious sources of variation between the written language in Hong Kong and in mainland China are the usage of different Chinese characters and a slightly dissimilar vocabulary. Even though some parts of the Hong Kong scales could be used in the mainland questionnaire (after converting the characters), everything had to be checked against the English version.

After the first round of translation, the draft questionnaire was given to 10 native Chinese who were either educational sciences Master's students or professional teachers. Based on the reviewers' comments, some minor changes were made to the questionnaire. I then travelled to China with the revised questionnaire to collect the pre-service teacher data of article III. Before starting the data collection in China, a few university teachers from a special education college in Beijing checked the questionnaire and gave a positive evaluation about the quality of translation and the validity to the local context. Next, I collected the responses of over 500 Chinese pre-service teachers with this version of the questionnaire.

Before the collecting the in-service teacher data (II & IV), the data from the pre-service teacher questionnaires was coded into digital format and tested for reliability and structural validity. At an early stage of the analysis, it became clear that the SACIE scale did not function exactly as expected. The reliability of the scale, measured by Cronbach's alpha coefficient, was not particularly high, and the structure of three attitude dimensions could not be confirmed as suggested by the developers of the scale (Loreman, Earle, Sharma, & Forlin, 2007). To make sure that the reliability of the SACIE scale was not caused by some translation issue, I asked a second professional translator to make an alternative mainland Chinese translation of the SACIE scale. In addition, I exchanged emails with the developers of the scale and asked them to elaborate the intended meaning of a few items. Next, I compared the alternative mainland Chinese SACIE translation with the first mainland Chinese SACIE translation, the Hong Kong version, and the original English language scale and also asked the second translator to clarify her decisions whenever they differed from the first SACIE translation. In addition, the second translator suggested some small corrections to the first TEIP scale translation. Giving a full description of her suggestions would not make much sense for the readers that do not have a good command of both Chinese and English. To give one example, the second translator preferred to use *píngjìng xiàlái* (平静下来) instead of *ānjìng xiàlái* (安静下来) in TEIP item number 9 because its meaning is slightly closer to the English expression *to calm*. Finally, I made the decision about which translation of the SACIE and TEIP scales to use in collecting the in-service teacher data.

The organisers of large international surveys, such as the *European Social Survey* (ESS) and *Programme for International Student Assessment* (PISA), provide detailed instructions for questionnaire translation. The consortium behind the PISA 2012 survey, for example, requires all participating countries to follow strictly a double-translation and reconciliation procedure in the local translation and adaptation (OECD, 2010a, 2010b). In practice, double-translation and reconciliation procedure means that two translators should first independently translate the English and French language source material into the target language, and then a third person should merge these two translations into a single national version. After forming a single national version, domain experts should then review the appropriateness of content and terminology.

The ESS (2012) translation guidelines recommend using a committee-based *Translation, Review, Adjudication, Pre-testing and Documentation* (TRAPD) strategy for translation. In the TRAPD approach, people with three different roles are involved in producing the final translated questionnaire. These roles are a translator, a reviewer, and an adjudicator who is responsible for the final decisions about which translation options to adopt, after consulting the reviewers and translators. Notably, neither PISA nor the ESS guidelines recommend using the back-translation technique (Brislin, 1970), which was the most commonly-used form of translation in cross-national surveys for a long time (O'Shea, Bryson, & Jowell, 2007). In back-translation, the document is first translated into the target language by one translator and then translated back to the original language by another translator, after which the quality of the translation is assessed by comparing the original and back-translated documents. More recently, the back-translation method has been strongly criticised for its practical and theoretical

weaknesses. For example, Harkness (1999) sees it as one of the less recommendable procedures.

The questionnaire translation procedure used in this dissertation followed many recommendations of the PISA and ESS guidelines, even though the process was less formalized, due to limited financial resources and my lack of previous experience in conducting international survey research. Similar to the PISA procedure, the final in-service teacher questionnaire (II & IV) was based on the work of two independent translators. Furthermore, the appropriateness of content and terminology was reviewed by outside experts, as recommended in both PISA and ESS guidelines. Similar to ESS instructions, the final decision of which translation to use was done by an adjudicator (me) after considering the reviewers' and translators' views. An additional commonality between this dissertation, PISA, and ESS was the avoidance of the back-translation method.

5.2 TEACHER SELF-EFFICACY FOR INCLUSIVE PRACTICES SCALE

The Teachers Self-Efficacy for Inclusive Practices (TEIP) scale (Sharma et al., 2012) is a relatively new instrument, and the data collection for this dissertation was the first time it was used in mainland China, Finland, or South Africa. In the different datasets of this dissertation, the alpha coefficient for the total TEIP scale was .90 or higher. The reliability of all three TEIP subscales was .75 or higher in all datasets. This can be considered more than adequate reliability for a relatively short instrument and a newly developed instrument that is used for group-level research (Nunnally & Bernstein, 1994, p. 265).

In this dissertation, confirmatory factor analysis (CFA) was used to test the structural validity of the TEIP scale. In CFA, the other commonly used fit indices – CFI, TLI, RMSEA, and SRMR – indicated acceptable model fit. In the model fit statistics, the significant chi-square value was the only indicator that suggested the rejection of the CFA model. On the other hand, the chi-square test is known for its sensitivity to sample size (Fan, Thompson, & Wang, 1999). When the sample size is large (about 500 cases or more), the chi-square test will very often indicate a poor fit to the empirical data even if the other fit indices point in the other direction (Munro, 2005, p. 364). Another problem was that in all datasets of this dissertation one or two TEIP items loaded in more than one factor and had to be left out from the CFA model. Nevertheless, even if one acknowledges these shortcomings, one can say with considerable confidence that the TEIP scale is already in its current form a reliable instrument with adequate structural validity.

Increasing the number of scale points could be one way to further improve the TEIP scale. The TEIP scale has 6 response anchors, but in practice it worked more like a 4-point scale since the respondents seldom used the lowest two points. This phenomenon was strongest in the South African data in which the distribution was so skewed that it had to be normalized with a logarithmic transformation. Bandura (2006b) recommended using a 10-point or even 100-point scale, and increasing the number of points in the TEIP scale to 10 would probably enable an increase in the variation of responses.

5.3 SCALES MEASURING ATTITUDE TOWARDS INCLUSIVE EDUCATION

As already mentioned, attitudes towards inclusive education were measured by two instruments: the 20-item scale about general attitudes towards inclusive education (I) and the 15-item SACIE scale (II-IV). Here, I will comment mainly on the reliability and validity of the SACIE scale. As to the other attitude scale, I will simply mention that as a total scale it had an adequate reliability ($\alpha = 0.76$) measured by Cronbach's alpha coefficient. The reliability of the total SACIE scale was not particularly high in the Chinese pre-service sample ($\alpha = 0.68$) or in the Chinese in-service teacher sample ($\alpha = .69$). Both alpha values were slightly below 0.70 that is by convention considered to reflect acceptable reliability (Domino & Domino, 2006, p. 43).

The reliability of the total SACIE scale or its subscales has caused concern also in some other studies (Forlin, Cedillo, Romero-Contreras, Fletcher, & Hernández, 2010; Forlin, Earle, Loreman, & Sharma, 2011; Savolainen, Engelbrecht, Nel, & Malinen, 2012). Even though higher reliabilities would certainly have been more preferable, the SACIE scale was still used in this dissertation as a measure of general attitude towards inclusive education (II & III). This decision gains support from Nunally and Bernstein (1994) who warned not to exaggerate the importance of high reliability. They wrote, "Limited reliability is not the major reason limiting test validity, and, unfortunately, the search for reliable measures often causes people to replace relatively valid but somewhat unreliable measures with less valid measures" (Nunally & Bernstein, 1994, p. 249). During its development, the content of the SACIE scale items had gone through expert evaluation. In this dissertation, the adequate content validity of the SACIE scale was seen to balance the limited reliability so that its cautious usage was justifiable. In future studies, however, if the challenges related to reliability of the SACIE scale continue, one might also consider using some other instrument like the Attitudes Towards Inclusive Education Scale (ATIES) (Wilczenski, 1995) for measuring attitudes.

5.4 RESEARCH CONTEXT

This dissertation acknowledges the view that cultural-historical factors within a given society should be taken into account when conducting research on inclusive education (Artiles, 2009; Artiles & Dyson, 2005). On the other hand, in the quantitative research tradition, the researchers usually work with concepts that can be operationalized into measurable variables, and culture is a very hard thing to measure. In China, measuring culture would be an especially challenging task, since a great diversity of ethnic nationalities, customs, languages, dialects, and beliefs exist within its borders. In addition, I have come to notice that some peer-reviewed scientific journals prefer to publish research that is not tightly connected to only some specific cultural-historical settings. Throughout this dissertation project, my challenge has been to balance between these two perspectives – to appreciate the context in which the research was conducted, while producing good-quality quantitative research that could be accepted by the relevant scientific publication.

A case example of this balancing can be seen in the so-called Confucian values. Some authors have emphasised the role of Confucian values, like the attitude of sympathy and

kindness towards the less capable members of the society, in the development of Chinese inclusive education (Deng, Poon-McBrayer & Farnsworth, 2001; Yu, Su & Liu, 2011). I agree that the heritage of Confucianism can still be seen in the Chinese education system and educational practices. Nevertheless, within the research paradigm of this dissertation, using Confucianism as an explanation for the investigated phenomena would have been quite problematic. Fitting Confucianism in a structural equation model of explaining teachers' attitudes or self-efficacy related to inclusive education would have been methodologically as debatable as making Christianity an independent variable of a corresponding Finnish model.

Mainland China, where the majority of the research in this dissertation was conducted, is not the country where I grew up. In beginning of this project, I already had some assets for overcoming this obstacle. First, as a fluent Mandarin speaker, I could communicate at least with the educated Chinese people who are able to speak the standard Chinese language (*Pǔtōnghuà*). Second, I had lived in China and considered several Chinese people as my friends. From the mid-2000s, I had read broadly not only about Chinese education but also about other aspects of Chinese society. I had also regularly followed both Western and Chinese media coverage about issues related to Chinese society. Regardless of these and other efforts to familiarise with the local culture and context, I am sure that I had and still have many preconceptions that stem from my Finnish identity. It is likely that these preconceptions, at least to a certain extent, guide me to study the research questions from a certain perspective rather than from another and affect my interpretation of the findings. These preconceptions may limit what I consider desirable outcomes of inclusive education and appropriate ways of producing these results.

Appreciating the local context is important, but we should also be careful not to over-mystify other cultures. On the surface-level, China may appear very different from Finland, but in my experience, people's lives in these two countries can often be quite similar. With my own background as a university student, school teacher, and a father of two daughters, I found it quite easy to relate to the experiences of the people I have met. For example, in both countries, the practical challenges of teaching are quite similar, perhaps because the basic nature of children in Finland and China is not that different. In both countries, most teachers also want to do their work properly but not at the expense of their private life.

During this dissertation project, I tried to increase the validity and reliability of my interpretations by spending time in China. This decision was informed by Crossley and Watson (2003, p. 36), who recommended that researchers who are involved in international comparative research spend an extensive period of time in the target country in order to gain adequate knowledge and understanding of the local context. Even though it might have been possible to collect the questionnaire data only through shorter visits and by relying more on local assistants, I decided to be personally involved throughout the entire data collection process. This decision required me to live half a year in Beijing with my family and to do three other one-month trips to China. It was important for me to personally witness the participants to fill in the questionnaires. This is not to underestimate all the wonderful people who enabled my data collection. I just

felt that leaving all the data collection to a research assistants and supervising them from over 6000 kilometres away would have left me much less confident that the data was collected in an appropriate and ethical manner.

During my time in China, besides data collection, I was involved in many other activities. I joined in the weekly in-service training sessions together with part of my teacher participants. I spent time discussing with some of the pre-service teachers who participated in this study. I visited several schools in Beijing. I participated in a national seminar where I met educators from different parts of China. I also exchanged ideas with local university professors and teacher educators about a wide range of issues. Even though these kinds of activities are not visibly reported in the individual studies of this dissertation, since that kind of narrative does not fit easily to the standard format of a quantitative research report, I hope that they have had an “invisible” effect in making my research more credible.

Conducting research in another country, where I had no official position, caused some obvious difficulties. Since I did not have any formal access to local institutions, I often had to rely on the goodwill of my local partners and participants. This led to a certain lack of control in the data collection process. Even though my aim was to have some variety in the participant demographics, I could not ensure a randomised and representative sample from my exact target population. This is perhaps the biggest methodological limitation of this dissertation, and it causes restrictions for the generalisability of my findings.

My unofficial position was also beneficial for my research. My impression is that most people felt quite free to respond to me. Perhaps because of my foreigner identity and lack of institutional power, they did not perceive me as a threat. Maybe the teachers felt that they could talk openly with me because I had no authority or motivation to discipline them for any unorthodox thinking. Perhaps they did not feel so afraid to say something that was not meant for everyone’s ears, since it would most likely remain confidential. In my non-formal role, I had no obligation to report to any local authority and I would soon be returning to Finland.

China is a geographically and demographically large and varied country. This dissertation concentrates on one Chinese region, namely Beijing municipality. Therefore, one should be very careful in generalising these results to China in general. This restriction, which is almost unavoidable in any China-related research, was clearly expressed exactly 80 years ago by a group of four European educational experts after returning home from a League of Nations’ mission to China: “Political and economic conditions differ greatly in different parts of China; educational achievements and possibilities necessarily vary with them; and we recognise that the observations made by us in person are an insufficient basis for comprehensive generalisations.” (Becker, Langevin, Falski, & Tawney, 1932, p. 13) I also want to use the words of the same four people to defend my own decision not to expand my research efforts to different parts of China: “We thought it wiser, however to concentrate our attention upon the educational conditions obtaining in those regions which we could hope to study with more thoroughness...rather than to attempt to make a survey which must necessarily have been superficial, of a mere extensive area” (Becker et al., 1932, p. 13).

One individual study (IV) of this dissertation contained data not only from China, but also from Finland and South Africa. From these three contexts, South Africa was particularly challenging for me since I have never visited the country and cannot claim to have very deep understanding of the local society and education system. Luckily, I was privileged to collaborate with South African colleagues who are among the best experts of inclusive education in their country. The South African team did the local data collection including the translation and adaptation of the questionnaire. Before starting to write article IV, I met all the South African co-authors face-to-face in Canterbury UK and shared ideas about the to-be-manuscript. During the actual writing process, the South African team wrote the description of the local context and actively corrected my misunderstandings about the situation of inclusive education in their country. Nevertheless, it was important that the international collaboration in conducting the comparative study (IV) was not only limited to everyone minding their own country. International colleagues, with their questions and reflections about inclusive education in China and Finland, helped to challenge my understanding of inclusive education in these contexts with which I am more familiar. In writing study IV, I personally experienced what professor Petra Engelbrecht, the leader of the South African team, often refers to as “making the strange familiar and familiar strange”.

6 *Future directions*

Research projects often raise more new questions than give answers to the old ones. This is the case also with the current dissertation. Below I will discuss some of the questions that would need clarification in future studies related to teachers' roles in inclusive education.

6.1 GENERALISABILITY OF THE FINDINGS

Three individual studies (I–III) of this dissertation are mainly based on data collected in Beijing municipality, and one study (IV) has samples also from Finland and South Africa. In future studies, it would be advisable to investigate how generalisable these findings are to other contexts. Fortunately, this dissertation is connected to an international comparative research project named the *Teachers' Roles in Inclusive Education*, and very likely we will soon know more about the teachers' attitudes and self-efficacy for inclusive practices in the other countries of our project. In addition to our project, there are also other researchers who have collected similar types of data in countries like Mexico, Canada, the US, India, Hong Kong, and even in Shanghai China (Forlin et al., 2010; Forlin et al., 2011; Zan et al., 2011).

6.2 CLUSTERING OF TEACHER ATTITUDES AND EFFICACY BELIEFS ACCORDING TO SCHOOLS

In the analyses of this dissertation, we analysed the teachers as independent individuals that are affected by their personal background factors. In reality, however, teachers are nested in different institutions, and it may be that educators who work in the same school are more similar to each other. In prospective studies, a multilevel modelling approach would enable the researcher to analyse more carefully variation in teachers' attitudes and efficacy beliefs within and between schools.

6.3 CHANGES IN TEACHERS' EFFICACY BELIEFS

This dissertation relied only on cross-sectional data, and therefore it was not possible to analyse the possible changes in teachers' perceptions. In future studies, it would be interesting to gather longitudinal data, for example from a cohort of student teachers during their teacher education and first years in the teaching profession. Through this type of research design, we would learn about the effectiveness of our teacher education programmes in developing the pre-service teachers' sense of professional competence. It would also teach us more about what happens to the newly qualified teachers' self-efficacy when they have to manage independently classes with diverse learners.

Longitudinal data would also enable us to use, for example, latent growth curve mixture modelling to identify (latent) groups with different self-efficacy growth

trajectories. After obtaining such findings, we could try to find factors that increase the risk for declining self-efficacy and design targeted interventions for the risk groups.

6.4 THE INFLUENCE OF ATTITUDES AND PERCEIVED SELF-EFFICACY ON TEACHER BEHAVIOUR

Figure 4 presents a theoretical model of predicting human behaviour. In the model, *attitude* and *self-efficacy* had both direct and indirect effects on *behaviour*. The other factors in the model are *goals* that mediate the effect of *attitude* and *self-efficacy* to *behaviour*, and *sociostructural factors* that mediate part of the effect from *self-efficacy* to *goals*. Figure 6 illustrates how this model could be adapted to the context of inclusive education. In future studies, it would be very interesting to put this model to the test with empirical data. As shown in this dissertation, we already have instruments for measuring *attitude towards inclusive education* (e.g. SACIE scale) and *self-efficacy for inclusive practices* (TEIP scale). *Teacher behaviour* could be measured by using some of the already existing classroom observation scales (e.g. Stanovich & Jordan, 1998) or by developing a new observation instrument based on existing literature (e.g. Mitchell, 2008) and our own findings on effective inclusive practices.

Sociostructural factors in schools, which are people's perceptions of the structural characteristics of their environment, are not easy to measure. Fortunately, there is the *Index for Inclusion* (Booth & Ainscow, 2002), a document that has been in use for a decade to evaluate the inclusiveness of individual schools. The *Index* contains many questionnaires that can be used to assess how well the school culture and structures support inclusion.

By the time of writing, the biggest challenge seems to be how to measure the *teacher goals*. I have not yet been able to find any existing scales that would be suitable for measuring teachers' aims related to implementing inclusion. Nevertheless, it should be possible to develop a new scale for this purpose. The new scale could be based on school- and classroom-level aims of different inclusive education programmes and policies in addition to findings of in-depth teacher interviews.

If we could in this way empirically confirm the model of predicting teacher behaviour in an inclusive classroom (Figure 6), it would help us to considerably expand our understanding of the grassroots level of inclusive education. Moreover, it could be a small step forward in understanding people's actions in many other domains.

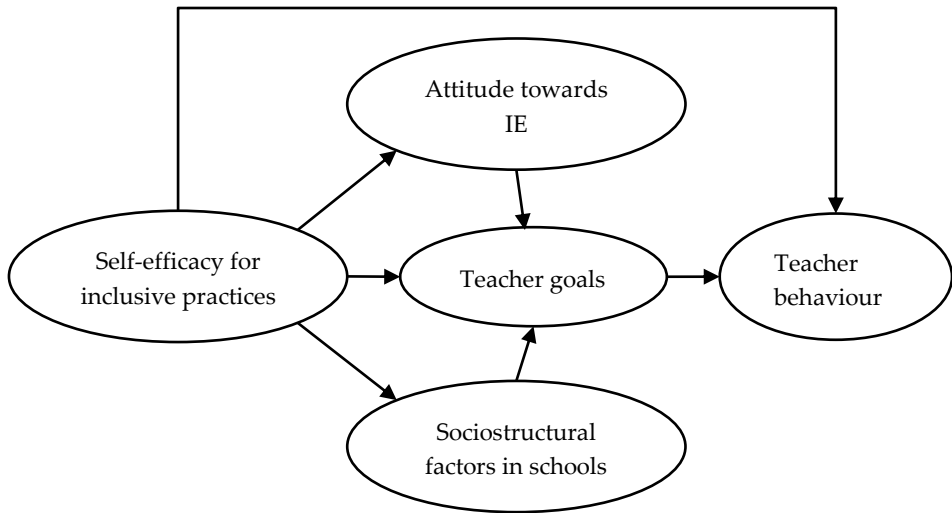


Figure 9: Model of predicting teacher behaviour in inclusive classrooms.

7 *Conclusions*

The following conclusions can be drawn based on the results reported in the dissertation:

1. Attitudes towards inclusive education among Chinese pre-service and in-service teachers are not particularly positive.
2. Those who have stronger self-efficacy for inclusive practices hold more positive attitudes towards inclusion. Especially important in this respect is the level of self-efficacy in collaboration.
3. Gaining experience from (successful) inclusive teaching is a potentially effective way to strengthen a teacher's perceived self-efficacy. This seems to hold true across very dissimilar cultural contexts.

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Appendix

Appendix 1. Chinese version of the scale on attitudes towards inclusive education (I)

1 = 很不同意

2 = 基本不同意

3 = 基本同意

4 = 非常同意

| |
|---|
| 在普通教育体系里，每个学生都享受合适的教育项目和相关的服务。 |
| 残疾学生将经历更多的学术失败如果他们被放在普通课室里。 |
| 在普通课室里残疾学生有时被其他的学生所排斥。 |
| 残疾学生的自信心会提高如果他们一直在普通课室里。 |
| 将残疾学生全天放在普通课室意味着对所有学生的平等。 |
| 普通教育有人力和资源来满足 每个学生 的需求。 |
| 非残疾儿童和严重残疾的儿童应该分开授课。 |
| 让残疾学生和普通学生一起在普通课室上课会影响普通学生的受教育质量。 |
| 只有受过专门特殊教育培训的老师才有能力有效地教有严重残疾的学生。 |
| 普通课室老师能满足目前在课室的残疾学生的学习需求。 |
| 学生们喜欢跟可以与他们一起分享共同特点和担忧的人在一起。 |
| 把残疾学生和普通学生放在一起意味着对每一个人的 教育 平等。 |
| 有着严重行为问题的学生需要特殊课室。 |
| 普通课室教师对他们课室里的残疾学生有着首要责任。 |
| 被全天放在普通课室里残疾学生会丢掉一些例如“哑子”，”不同的人“，”失败者”之类的 |
| 要求普通课室老师接收有严重残疾的学生是正确的。 |
| 当残疾学生被放在普通课室时，教普通学生的时间就被占用了。 |
| 如果残疾学生被放在普通课室，他们的成绩水平会提高。 |
| 由于残疾学生有特殊的需求，最好将他们放在特殊课室受教。 |
| 有严重行为障碍的学生需要特殊学校的特殊教育。 |

Appendix 2. English version of the scale on attitudes towards inclusive education (I)

1 = I disagree very much

2 = I disagree pretty much

3 = I agree pretty much

4 = I agree very much

| |
|---|
| All pupils will receive appropriate educational programmes and related services in ordinary education. |
| Pupils with mild disabilities would experience more academic failure if they were placed full time in the ordinary classroom. |
| Pupils with disabilities are sometimes rejected, ridiculed, and/or teased by other pupils in the regular classroom. |
| The self-esteem of pupils with disabilities would improve if placed full time in the ordinary classroom. |
| Full-time placement of pupils with disabilities in ordinary classes means equity for all pupils. |
| Ordinary education has the resources and personnel to address the individual education needs of all pupils. |
| Non-disabled children and children with severe disabilities should be taught in separate classrooms. |
| Having pupils with disabilities in ordinary education classes will interfere with the quality of education offered to pupils considered as non-disabled |
| Only teachers with special education training are able to teach effectively pupils with severe disabilities. |
| Ordinary class teachers can meet the academic needs of pupils with disabilities currently in their classrooms. |
| Pupils like to be with others with whom they share common characteristics and concerns. |
| Placing pupils with disabilities full time in regular classes means quality education for all. |
| Special classes are needed for pupils who display severe forms of behaviour problem. |
| Ordinary class teachers have the primary responsibility for the education of pupils with disabilities in their classrooms. |
| Pupils with disabilities would lose the stigma/label of being "dumb", "different", or "failures" if they were placed full time in the ordinary classroom. |
| It is right to ask ordinary class teachers to accept pupils with severe disabilities into their classes. |
| Time for teaching of non-disabled is taken away when pupils with disabilities are placed in ordinary classrooms. |

(cont.)

(cont.)

| |
|--|
| Achievement levels of pupils with disabilities would increase if they were placed full time in the ordinary classroom. |
|--|

| |
|--|
| Because of their special needs, pupils with severe disabilities are best taught in special classrooms. |
|--|

| |
|---|
| Pupils with severe behaviour disorders need special education in special schools. |
|---|

Appendix 3. Chinese version of the scale for rating the optimal educational placement for students with disabilities (I)

1 = 全天普通课室

2 = 多数时候(高于 75%)在普通课室

3 = 多数时候在特殊课室

4 = 全天在特殊课室

5 = 全天在隔开的特殊学校

6 = 全天在特殊机构(包括学校和住宿)

说明：特殊课室是普通学校的一个部分

| |
|------------------------|
| 中度言语障碍 |
| 严重言语障碍 |
| 中度学习障碍(拼写, 书写, 阅读, 等等) |
| 严重学习障碍(拼写, 书写, 阅读, 等等) |
| 中度弱智 |
| 严重弱智 |
| 中度低视力 |
| 严重低视力 |
| 中度重听 |
| 严重重听 |
| 中度行为障碍 |
| 严重行为障碍 |
| 中度肢体与健康障碍 |
| 严重肢体与健康障碍 |

Appendix 4. English version of the scale for rating the optimal educational placement for students with disabilities (I)

1 = Full time ordinary classroom

2 = Most time (over 75%) in ordinary classroom

3 = Most time in special classes

4 = Full time in special class/unit of ordinary school

5 = Full time in separate special school

6 = Full time in special institution (with both school and residence)

| |
|--|
| Moderate speech impairments |
| Severe speech impairments |
| Moderate specific learning difficulties (in spelling, writing, reading, etc) |
| Severe specific learning difficulties (in spelling, writing, reading, etc) |
| Moderate mental retardation |
| Severe mental retardation |
| Moderate visual impairments |
| Severe visual impairments |
| Moderate hearing impairments |
| Severe hearing impairments |
| Moderate behavioural problems |
| Severe behavioural problems |
| Moderate physical and health impairments |
| Severe physical and health impairments |

Appendix 5. Mainland Chinese version of the TEIP scale

- 1 = 非常不同意
- 2 = 不同意
- 3 = 有点不同意
- 4 = 同意一部分
- 5 = 同意
- 6 = 非常同意

| |
|---------------------------------------|
| 我能使用各种不同的评估策略（例如：档案评估、改良测试、全面评估等）。 |
| 当学生感到困惑时，我可以提供其他的解释或例子。 |
| 我自信能根据残疾学生的特殊需求来制定合适的学习任务。 |
| 我能够准确评估学生对我所教知识的理解程度。 |
| 我能给一些能力强的学生提供合适的挑战。 |
| 我有信心让学生以双人或者小组的形式进行学习。 |
| 我自信有能力预防课堂上的捣乱行为。 |
| 我可以控制课堂上的捣乱行为。 |
| 我能让破坏捣乱或吵闹的学生平静下来。 |
| 我能让学生遵守课堂规则。 |
| 我有信心应付行为暴力的学生。 |
| 我能让学生明白我对他们行为的期望。 |
| 我能协助家长让他们的孩子在学校里有更好的表现。 |
| 我能够与其他专业人士和职员（例如：教师助理、其他老师）共同给残疾学生授课。 |
| 我有信心让残疾学生的家长参与学校活动。 |
| 我能让家长乐意来学校。 |
| 我能够与其他专业人士（例如：教导主任及校医）合作，为残疾学生制定学习计划。 |
| 我有信心将关于残疾学生随班就读的法律政策告知给对此不熟悉的人士。 |

Appendix 6. English language TEIP scale

1 = Strongly Disagree

2 = Disagree

3 = Disagree Somewhat

4 = Agree Somewhat

5 = Agree

6 = Strongly agree

| |
|--|
| I can use a variety of assessment strategies (for example, portfolio assessment, modified tests, performance-based assessment, etc.). |
| I am able to provide an alternate explanation or example when students are confused. |
| I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated. |
| I can accurately gauge student comprehension of what I have taught. |
| I can provide appropriate challenges for very capable students. |
| I am confident in my ability to get students to work together <i>in pairs or in small groups</i> . |
| I am confident in my ability to prevent disruptive behaviour in the classroom before it occurs. |
| I can control disruptive behaviour in the classroom. |
| I am able to calm a student who is disruptive or noisy. |
| I am able to get children to follow classroom rules. |
| I am confident when dealing with students who are physically aggressive. |
| I can make my expectations clear about student behaviour. |
| I can assist families in helping their children do well in school. |
| I am able to work jointly with other professionals and staff (e.g. aides, other teachers) to teach students with disabilities in the classroom. |
| I am confident in my ability to get parents involved in school activities of their children with disabilities. |
| I can make parents feel comfortable coming to school. |
| I can collaborate with other professionals (e.g. itinerant teachers or speech pathologists) in designing educational plans for students with disabilities. |
| I am confident in informing others who know little about laws and policies relating to the inclusion of students with disabilities. |

Appendix 7. Mainland Chinese version of the SACIE scale

1 = 非常不同意

2 = 不同意

3 = 同意

4 = 非常同意

| |
|------------------------------------|
| 我担心班上的其他同学会不接受残疾学生。 |
| 我惧怕有一天自己也会变成残疾人。 |
| 在运用语言表达思想感情上有困难的学生应该留在普通班上课。 |
| 我担心在实行随班就读的课堂里，教师很难给予所有学生适当程度的注意力。 |
| 我倾向与残疾人士进行短暂的接触，并且我会尽快结束与他们的接触。 |
| 注意力涣散的学生应该在普通班上课。 |
| 如果我的班上有残疾学生，我担心我的工作量会增加。 |
| 需要使用勾通工具（例如：凸点字法/手语）的学生应该在普通班上课。 |
| 如果我残疾了，我会觉得很可怕。 |
| 我担心如果有残疾学生在我的班上，我会有更大的压力。 |
| 我害怕直视残疾人的脸。 |
| 经常考试不及格的学生应该在普通班上课。 |
| 当遇到有严重身体残疾的人时，我难以克服初始的震惊心情。 |
| 我担心我不具有教育残疾学生所需要的知识与技能。 |
| 需要个别化课程的学生应该在普通班上课。 |

Appendix 8. English language SACIE scale

1 = Strongly Disagree

2 = Disagree

3 = Agree

4 = Strongly Agree

| |
|---|
| I am concerned that students with disabilities will not be accepted by the rest of the class. |
| I dread the thought that I could eventually end up with a disability. |
| Students who have difficulty expressing their thoughts verbally should be in regular classes. |
| I am concerned that it will be difficult to give appropriate attention to all students in an inclusive classroom. |
| I tend to make contacts with people with disabilities brief and I finish them as quickly as possible. |
| Students who are inattentive should be in regular classes. |
| I am concerned that my workload will increase if I have students with disabilities in my class. |
| Students who require communicative technologies (for example Braille / sign language) should be in regular classes. |
| I would feel terrible if I had a disability. |
| I am concerned that I will be more stressed if I have students with disabilities in my class. |
| I am afraid to look a person with a disability straight in the face. |
| Students who frequently fail exams should be in regular classes. |
| I find it difficult to overcome my initial shock when meeting people with severe physical disabilities. |
| I am concerned that I do not have the knowledge and skills required to teach students with disabilities. |
| Students who need an individualized academic program should be in regular classes. |

Original articles

ARTICLE I

INCLUSION IN THE EAST: CHINESE STUDENTS' ATTITUDES TOWARDS INCLUSIVE EDUCATION

By Olli-Pekka Malinen and Hannu Savolainen, 2008

International Journal of Special Education, 28(3), 101–109.

INCLUSION IN THE EAST: CHINESE STUDENTS' ATTITUDES TOWARDS INCLUSIVE EDUCATION

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A sample of 523 Chinese university students was given a questionnaire on their attitudes towards the inclusion of children with disabilities into regular classrooms. Factor analysis, analysis of variance, t-test and correlations were used to assess the respondents' general attitude towards inclusion, the factor structure of the attitudes, the relationship between demographic variables and the attitudes and the ratings of best educational environments for students with different kinds of disabilities. The analysis revealed that (a) the participants' average attitude towards inclusion was slightly negative; (b) four factors, named as Social justice, Meeting the special needs of the pupils with severe disabilities, Quality of education and Teachers' competence, were extracted (c) the most important background variable that explained the attitudes' major subject in the University; and (d) the ratings for the best educational environment for a student with a disability varied according to different types and levels of disability.

Introduction

Inclusion

Regardless of the strong international consensus towards inclusion as a universal goal, there is still strong debate over the concept of inclusion itself (Ainscow & César 2006; Kavale & Forness 2000; Dyson 1999; Unesco 1994, 2000; United Nations 1993). Unesco (2005) defines inclusion as a process of addressing and responding to the diverse needs of all learners, so it refers to all groups at risk of marginalisation and exclusion, not only to persons with disabilities (Unesco 2005). Nevertheless, inclusion is still often seen as concerning only children with disabilities and *special educational needs* although the alternative views of inclusion have gained strength. However, the confusion caused by competing views on inclusion may have a negative effect on the development of thinking, policies and practices around the globe (Ainscow & César 2006). Some critics claim that the inclusion debate has abandoned evidence based on research and shifted to the ideological level, where sensible discussion about the topic is extremely difficult (Kavale & Forness 2000). Some researchers still support the traditional special education system (e.g. Hockenbury et al., 2000), claiming, for example, that even though there is a lot to improve in special education, improvements are made through developing more efficient special education practices not through philosophical debate. Because of the ambiguities of the concept of inclusion and the inclusion movement, Dyson (1999) suggests that there may be different types of inclusions which can be found from the different discourses on inclusion. Although it may be difficult to unify these discourses, assimilating them may offer possibilities to develop new ways of thinking about inclusion (Dyson 1999).

Chinese inclusive education

Chinese inclusive education, commonly named as *suiban jiudu*, has ideological as well as pragmatic roots. International campaigns supporting inclusion, like the 1989 United Nations Declaration on the Rights of the Child, followed by the Education for all declarations of UNESCO in 1990 and 2000 and the Salamanca statement in 1994, have all had influence in the development of inclusive education in China (Potts 2000). Since the 1980s the Chinese legislation has also begun to promote an inclusive approach in education (Deng & Manset 2000; Deng et al., 2001; McCabe 2003). An important reason behind the progress of inclusion in China is perhaps finance. The number of children with disabilities going to school is growing and building a network of special schools for them would be too expensive. Accepting children with disabilities into regular classrooms is perhaps seen as a cost-effective approach (McCabe 2003). According to Deng & Manset (2000), it has been estimated that providing separate special education only for the nearly 5 million intellectually disabled children in China would require establishing at least 210 000 new special schools. One of the most important challenges for inclusive

education in China are large class sizes. In 2006, nearly one third of primary school classes in China had over 45 students (Ministry of Education of the People's Republic of China 2007). In large classes, teachers easily prefer a standardized curriculum and whole-group teaching instead of more individualized methods (McCabe 2003). Another barrier against inclusion is the Chinese school culture that emphasises selection and competition. Teachers are commonly rated on the basis of what percentage of their students are enrolled into the most prestigious secondary education schools (Deng & Manset 2000; Deng et al. 2001).

Attitudes towards inclusive education studies

According to Bizer et al., (2003) attitude is a rather enduring and universal evaluation of a person, object or issue. The popularity of attitudinal research has been based on the assumption that attitudes can predict and explain social behaviour. Empirical evidence has not always supported this assumption. (Ajzen & Fishbein 2005.)

Research on attitudes towards inclusive education has concentrated strongly on the teachers' and university students' attitudes. According to research made in western countries, teachers and university students seem to support inclusive education (Scruggs & Mastropieri 1996; Jobe et al. 1996; Monahan et al., 1996; Avramidis & Bayliss 2000; Burke & Sutherland 2004). Some results suggest that attitudes towards inclusive education in non-western countries might be more negative (Alghazo & Gaad 2004; Leyser et al. 1994). Scruggs & Mastropieri (1996) point out that teachers' attitudes towards inclusive education may be strongly linked to practical concerns and may, thus, be more negative when teachers are asked to accept students with disabilities in their own classrooms. Avramidis & Norwich (2002) mention that regardless of positive attitudes towards inclusion, only a small percentage of teachers support so-called full inclusion (Avramidis & Norwich 2002). The two most important factors affecting attitudes towards inclusion are the type and severity of the students' disability (Avramidis & Norwich; Scruggs & Mastropieri 1996; Jobe et al. 1996; Moberg & Savolainen 2003). Those students with physical or sensory disability or mild mental retardation seem to be the ones most easily accepted into general education classrooms, whereas students with severe or multiple disabilities are most often rejected (Avramidis & Norwich 2002). The biggest differences between countries seem to be in the attitudes towards inclusion of pupils with sensory impairments (Avramidis & Norwich 2002).

The Chinese research on attitudes towards inclusive education has mainly concentrated on the attitudes of primary school general education teachers. Only in recent years have researchers began to pay attention to other target groups (Chen et al., 2006). However, research findings on Chinese teachers' general attitudes towards inclusion could best be described as inconsistent. Some studies suggest that attitudes are slightly positive (Peng 2000; Peng 2003; Wan & Huang 2005), while other studies have found that attitudes towards inclusive education are clearly negative (Wei et al., 2001; Wei & Yuen. 2000). Furthermore, the findings of Wei et al. (2001) in Beijing and Hong Kong suggest that attitudes towards inclusive education may vary a lot between the different regions of China.

Differences have also been found in attitudes between different groups of teachers in China. Chen (2006) and Wei & Yuen (2000) suggest that Chinese special education teachers see inclusion more positively than Chinese general education teachers. Chen (2006) also adds that general education teachers' attitudes change greatly in a negative direction if asked to accept students with disabilities into their own class. Teachers' gender seems to have no relationship with attitudes towards inclusive education in China (Peng 2000; Wan & Huang 2005; Wei & Yuen 2000). Liu et al., (2000) and Peng (2003) found that receiving education on inclusion can make teachers' attitudes more positive. The type and severity of the students' disability is strongly related to inclusion attitudes in China. In summary, Chinese teachers and university students seem to be most positive towards the inclusion of students with visual or physical impairments and most negative towards the inclusion of students with mental retardation and emotional or behaviour problems. (Chen 2006; Liu et al., 2000; Wan & Huang 2005; Wei et al., 2001)

Research questions

The research questions this study aimed to answer were:

1. What is the participants' general attitude towards inclusive education?
 - 1.1 What is the structure of their attitudes?
 - 1.2 How are participants' background factors related to their attitudes towards inclusive education?
2. Which educational environments are rated the best for students with different kind of disabilities?

Method

Participants

523 Chinese students participated in this study. 75.7% of the participants were studying at normal universities (shifan daxue) that have teacher training as their main function. 20.5% of the participants were studying at universities (daxue) and 3.8% at other institutions. The most common major subjects taken by the participants were foreign languages (19.4%), computer science/information technology (11.0%), Chinese language and literature (10.6%), history (7.0%) and education (6.2%). The remaining 45.7% of the participants had one of the other 13 subjects as their major subject. The percentage of the participants who had received education on teaching disabled children in regular classrooms was 8.6%. The participants' most common home provinces were Beijing (36.5%), Hebei (8.1%), Guangdong (7.3%), Henan (5.1%) and Shanxi (4.9%). The majority (53.0%) came from hometowns with populations exceeding 4 million inhabitants. Two thirds of the participants were female (67.7%) and one third male (32.3%). The participants' age ranged from 17 to 43 years, their mean age being 26.5 years (SD = 5.51). The concept of inclusion was *very* or *rather familiar* to little more than half (54.0%) of the participants. Most participants (64.4%) had previous experience with disabled persons. As many as 91.5% of them claimed that their experiences with disabled persons had been *very* or *rather positive* and only 8.5% had *rather* or *very negative* experiences.

Procedure

Data were gathered with the use of a questionnaire form. The first section of the questionnaire included an attitude scale used earlier by Moberg & Savolainen (2003). It was used to assess the participants' general attitudes towards inclusive education. The scale contains 20 items on a four-point Likert scale. Each item was scored from 1 to 4, the highest score referring to the most positive attitude towards inclusive education. Cronbach alfa reliability for the scale was adequate (0.76).

In the second section, participants were asked to choose which educational environment would be the most suitable for students with different disabilities (see Moberg & Savolainen (2003). This section contained 14 items with six options. The options were (1) full-time in an ordinary classroom; (2) most of the time (over 75%) in an ordinary classroom; (3) most of the time in a special class; (4) full-time in a special class; (5) full-time in a separate special school; (6) full-time in a special institution. The most suitable environments were rated for seven different types of disability, each being defined as moderate or severe, respectively.

The participants were also asked to provide personal background information. The questionnaire included items about the participants' age, sex, number of siblings, number of co-habitants, form of accommodation, experience with disabled persons, hometown location, hometown's population, type of educational institution currently enrolled in, major subject, prior education or training related to inclusive teaching and knowledge of concepts related to inclusive education.

The questionnaire was originally written in English and then translated into Chinese. To ensure that the Chinese version was consistent with the English version, it was first translated by a native Chinese person, then revised by another native Chinese speaker and finally checked by a third native speaker. All three persons that took part in the translation process had a good command of both Mandarin Chinese and English.

Most of the participants (472) completed the paper version of the questionnaire at two Normal university campus areas in Beijing. A few participants (51) completed the questionnaire via internet or e-mail. As there were no significant differences between the responses given by paper and electronic versions of the questionnaire, all responses were analyzed as a one sample.

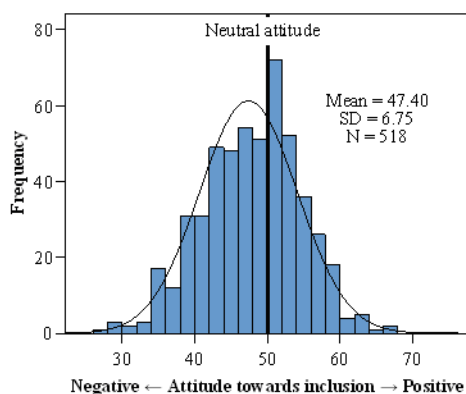
Results

Participants' general attitude towards inclusive education

The participants' general attitude towards inclusive education was normally distributed and slightly negative. The theoretical range of the scale was from 20 to 80, the score of 50 being the neutral mid-point of the scale. The actual range of the participants' scores was from 27 to 67 the mean score being 47.40 and standard deviation 6.75. (Fig. 1.)

The structure of their attitudes

A principal axis factor analysis with oblimin rotation was performed on the attitude scale. (Table 1) Analysis led to a four-factor solution which explained 45.0% of the total variance. The factors were

**Figure 1**

The participants' general attitude towards inclusive education.

Table 1

Factor analysis (principal axis, oblimin rotation) of the participants' (N = 518) attitudes toward inclusive education.

| Item | I | II | III | IV |
|---|-------|--------|-------|-------|
| 1.12 Placing pupils with disabilities full-time in regular classes means quality education for all. | 0.787 | | | |
| 1.5 Full-time placement of pupils with disabilities in ordinary classes means equity for all pupils. | 0.785 | | | |
| 1.18 Achievement levels of pupils with disabilities would increase if they were placed full-time in the ordinary classroom. | 0.534 | | | |
| 1.4 The self-esteem of pupils with disabilities would improve if placed full-time in the ordinary classroom. | 0.515 | | | |
| 1.15 Pupils with disabilities would lose the stigma/label of being "dumb", "different", or "failures" if placed full-time in the ordinary classroom. | 0.497 | | | |
| 1.16 It is right to ask ordinary class teachers to accept pupils with severe disabilities into their classes. | 0.448 | | | |
| 1.20 Pupils with severe behaviour disorders do not need special education in special schools. | | 0.626 | | |
| 1.19 Special needs of pupils with severe disabilities do not require teaching in special classrooms. | | 0.548 | | |
| 1.13 Pupils who display severe forms of behaviour problems do not need special classes. | | 0.452 | | |
| 1.11 Pupils like to be also with those with whom they do not share common characteristics or concerns. | | 0.317 | | |
| 1.1 All pupils will receive appropriate educational programs and related services in ordinary education | | -0.315 | | |
| 1.8 Having pupils with disabilities in ordinary education classes will not interfere with the quality of education offered to pupils considered as non- | | | 0.667 | |
| 1.17 Time for teaching of the non-disabled is not taken away when pupils with disabilities are placed in ordinary classrooms. | | | 0.620 | |
| 1.9 Also, teachers who have not received special education training are able to teach effectively pupils with severe disabilities. | | | | 0.642 |
| 1.10 Ordinary class teachers can meet the academic needs of pupils with disabilities currently in their classrooms. | | | | 0.427 |
| 1.7 Non-disabled children and children with severe disabilities should be taught in the same classrooms. | | | | 0.357 |
| 1.3 Pupils with disabilities are not rejected, ridiculed, and/or teased by other pupils in the regular classroom. | | | | 0.335 |

Note 1. Loadings with absolute value less than 0.3 are omitted. The factors were named as I = Social justice, II = Meeting the special needs of the pupils with severe disabilities, III = Quality of education for non-disabled students, IV = Teachers' competence

Note 2. Items 1.2; 1.3; 1.7; 1.8; 1.9; 1.11; 1.13; 1.17; 1.19; and 1.20 that were negatively phrased in the original questionnaire have been reversed.

named as: (i) Social justice (inclusion is the right of disabled students and they will benefit from that educationally and socially); (ii) Meeting the special needs of the pupils with severe disabilities (who need education in special classes) ; (iii) Quality of education for non-disabled students (for which inclusion does not affect negatively); and (iv) Teachers' competence (is sufficient to teach disabled children in regular classrooms).

Relationships of some demographic variables and attitudes towards inclusive education

The participants' demographic factors were compared with both their general attitude towards inclusive education and attitudinal factors represented by factor scores. The only statistically significant ($p < 0.01$) negative correlation was between the participants' age and Factor II. This indicates that younger participants had a more positive perception towards *Meeting the special needs of the pupils with severe disabilities*.

The effect of the students' major subject on their attitudes was tested with a One-way ANOVA test (see Table 2). The participants' major subject area was significantly related to their general attitude towards inclusive education, ($F = 4.88$; $p < 0.001$) Factor I *Social justice* ($F = 3.68$; $p < 0.01$) and Factor IV *Teachers' competence* ($F = 4.613$; $p < 0.001$). The quality of experience with people with disabilities was related to Factor III *Quality of education for non-disabled students* ($F = 2.948$; $p < 0.05$).

Table 2
Means, standard deviations, F-values (One-way ANOVA) and Post Hoc analyses for the attitudes towards inclusive education (general attitude and factors) of respondents with different major subject groups

| | General | Factor I | Factor II | Factor III | Factor IV |
|-----------------------------------|------------------|------------------|-------------------|------------------|------------------|
| Major subject | mean (std) | mean (std) | mean (std) | mean (std) | mean (std) |
| 1 Behavioral | 44.453 7.792 | -0.373 1.004 | 0.050 0.756 | -0.176 0.896 | -0.249 0.830 |
| 2 Social | 49.073 6.417 | 0.169 0.901 | 0.082 0.887 | 0.156 0.763 | 0.259 0.825 |
| 3 Mathematics/ natural | 48.062 6.266 | 0.069 0.850 | 0.001 0.906 | -0.034 0.768 | 0.060 0.797 |
| 4 Language/ literature | 47.101 6.800 | 0.012 0.930 | -0.080 0.716 | 0.000 0.761 | -0.111 0.748 |
| 5 Other major | 48.002 6.137 | 0.038 0.886 | 0.067 0.628 | 0.121 0.824 | 0.132 0.835 |
| F-test | 4.88, $p = .001$ | 3.68, $p = .006$ | 0.678, $p = .608$ | 1.81, $p = .126$ | 4.61, $p = .001$ |
| Post hoc test | 1 < 2, 3, 5 | 1 < 2, 3, 4 | | | 1 < 2; 4 < 2 |

Note. (1 Behavioral = education, early childhood education, special education, psychology; 2 Social = politics and law, sociology, history; 3 Mathematics/natural = mathematics, physics, biology, chemistry, computer science/information technology, geography; 4 Language/literature = foreign language, Chinese language and literature; 5 Other = art or music, sports, other major)

The post hoc analyses (Table 2) revealed that participants majoring in behavioural science had a more negative general attitude towards inclusive education than participants whose major was in the areas of social science ($p < 0.001$), mathematics/natural science ($p < 0.01$), or other ($p < 0.05$). Behavioural science majors' attitude towards *Social justice* (Factor I) was more negative than the attitudes of the participants majoring in social science ($p < 0.01$), mathematics/natural science ($p < 0.01$) or Language/literature ($p < 0.05$). Participants', whose major area was behavioural science, perception of regular education *Teachers' competence* (Factor IV) to teach disabled children was significantly more negative compared to participants majoring in social science ($p < 0.001$). Participants majoring in language/literature also had a more negative attitude towards *Teachers' competence* than participants from the area of social science ($p < 0.05$). Moreover the Post-hoc analysis demonstrated that having experiences with people with disabilities was significantly related to scores for Factor III *Quality of education for non-disabled students*, in such a way that participants whose experiences were *rather negative* had more pessimistic views than participants with *very positive* ($p < 0.05$) or *rather positive* ($p < 0.05$) experiences.

The other investigated demographic variables: participants' gender; number of siblings; number of co-habitants; type of accommodation; hometown's location; hometown's population; institution; education related to inclusive teaching; or knowledge of concepts related to inclusive education, did not have any significant relation towards attitudes related to inclusion.

The ratings for the best educational environments for students with different kinds of disabilities

The participants were asked to evaluate the most suitable educational environment for different types of disability. They were also requested to differentiate between the general notion of moderate and severe levels for each disability. The most inclusive educational environment was recommended for students with visual impairment ($M = 2.20$; $SD = 1.08$) and most restrictive environment for students with mental retardation. The ratings for all disability groups as a whole and across moderate and severe levels of disability are shown in Table 3.

Table 3
Participants' (N = 512) ratings of best educational environment for students with different kinds of disabilities (Mean, standard deviation and 95% confidence interval).

| Student with | M | SD | 95% confidence | Severity of disability | M | SD | 95% confidence |
|--------------------------------|------|------|----------------|------------------------|------|------|----------------|
| Visual impairment | 2.20 | 1.08 | 2.11–2.29 | moderate | 1.69 | 0.98 | 1.60–1.77 |
| | | | | severe | 2.71 | 1.37 | 2.59–2.83 |
| Speech impairment | 2.85 | 0.93 | 2.77–2.93 | moderate | 2.16 | 0.92 | 2.08–2.24 |
| | | | | severe | 3.54 | 1.16 | 3.44–3.64 |
| Hearing impairment | 2.96 | 1.03 | 2.87–3.04 | moderate | 2.40 | 1.04 | 2.31–2.49 |
| | | | | severe | 3.51 | 1.19 | 3.41–3.61 |
| Specific learning difficulty | 3.15 | 0.90 | 3.07–3.23 | moderate | 2.53 | .91 | 2.45–2.61 |
| | | | | severe | 3.78 | 1.08 | 3.68–3.87 |
| Physical and health impairment | 3.37 | 1.40 | 3.24–3.49 | moderate | 2.67 | 1.46 | 2.54–2.79 |
| | | | | severe | 4.06 | 1.60 | 3.93–4.20 |
| Behaviour problems | 3.40 | 1.15 | 3.30–3.49 | moderate | 2.74 | 1.21 | 2.63–2.84 |
| | | | | severe | 4.05 | 1.32 | 3.94–4.17 |
| Mental retardation | 3.92 | 1.06 | 3.83–4.01 | moderate | 3.22 | 1.17 | 3.12–3.33 |
| | | | | severe | 4.61 | 1.19 | 4.51–4.72 |

Note. Means refer to the following scale: 1 = full-time in an ordinary classroom; 2 = most of the time (over 75%) in an ordinary classroom; 3 = most of the time in a special class; 4 = full-time in a special class; 5 = full-time in a separate special school; 6 = full-time in a special institution.

Table 3 demonstrates that the level of disability had a relationship with the ratings of the best educational environment within every disability group, so that the most suitable educational environment for students with moderate disability was significantly more inclusive than for those students with severe disability. Furthermore, the differences between different disabilities were all statistically significant, as indicated by the non-overlapping 95% confidence intervals.

Discussion

Attitudes towards inclusion

The participants' general attitude towards inclusive education appeared to be slightly negative. This result differs from most findings on western cultures but is rather consistent with the results of earlier research in mainland China (Scruggs & Mastropieri 1996; Avramidis & Norwich 2002; Wan & Huang 2005; Wei et al. 2001; Wei & Yuen 2000). It is worth noticing that although the general attitude towards inclusion in this sample was not positive, the participants were positive towards several individual items in the questionnaire. According to Fabrigar et al. (2005), this kind of attitudinal ambivalence is quite normal and, as Risbjerg Thomsen (2006) suggests, particularly common in East-Asian cultures.

The four factor attitudinal structure found in this study was almost identical with the structure Moberg & Savolainen (2003) discovered among Finnish and Zambian teachers. This suggests that in different cultures the attitudes towards inclusive education may be formed by rather similar underlying factors. The first factor *Social justice* is a reference to the universal principles of equality, while the remaining three factors, *Meeting the special needs of the pupils with severe disabilities*; *Quality of education for non-disabled students*; and *Teachers' competence*, are more connected to the practical implementation of inclusion. The factor structure seems to indicate that inclusion is a question of both principle and practice.

In this study, only a few demographic variables were found to be related to the attitudes towards inclusive education. For example, the participants' gender, education related to inclusive teaching, experience with people with disabilities, hometown's location or hometown's population did not have any significant relationship with the attitudes. This finding is somewhat similar with earlier research in both China and elsewhere, as there have not been many demographic variables that consistently predict attitudes towards inclusion.

One variable that did have a relationship with the students' attitude towards inclusion was the participants' major. The students majoring in behavioural science (psychology, special education, education or early childhood education) had the most negative general attitude towards inclusive education, while the attitudes of students majoring in social sciences were most positive. One explanation might be that students in the different major groups form their attitudes based on different sources of information. Possibly, the attitudes of students majoring in behavioural sciences are related to their experiences in the practical implementation of inclusive education and its effect on everyday life in schools, while the attitudes of students majoring in social sciences are guided by the universally accepted principles that lay behind inclusion.

Educational environments rated the best for students with different kinds of disabilities

The type and severity of the students' disability have been the two most important factors affecting attitudes toward inclusion (Avramidis & Norwich; Scruggs & Mastropieri 1996). Also, in our study, the type and severity of the students' disability had a significant relation with the best educational environment rated by the participants. Among different disability groups, the participants' were most willing to accept the students with visual impairment into regular classrooms. This positive attitude towards the inclusion of students with visual impairment appears to be a distinctly Chinese phenomenon, as similar findings have been made in many other studies in mainland China (Chen 2006, Liu et al. 2000; Peng 2003; Wang & Huang 2005). One possible explanation for this phenomenon is that the first successful inclusion programmes in China were targeted for students' with visual impairment (Deng & Manset 2000).

The participants of our study were reluctant to accept students with physical impairment into regular classrooms, while these students have usually been willingly accepted in other studies in both China and other countries (Avramidis & Norwich 2002; Chen et al. 2006; Wan & Huang 2005; Wei et al. 2001). On the other hand, Moberg & Savolainen (2003) found that Zambian teachers in their sample were also strongly against the inclusion of students with physical impairment. Moberg & Savolainen (2003) hypothesised this could be due to long and difficult distances to the nearest school. Difficult transportation conditions in rural and mountainous parts of China are one possible explanation for the negative attitude towards the inclusion of physically impaired students found in the present study. Another explanation could be the important role of physical training in Chinese schools, which may cause problems for students with physical impairment.

The findings of this study differ from the findings of previous research on attitudes towards inclusion in China in two ways. First, most Chinese studies have been conducted with primary school general education teachers. This study assessed the attitudes of Chinese university students. Second, in this study the data was gathered using a questionnaire which has not been formerly used in a Chinese context. Both modifications help to contribute to an understanding of attitudes towards inclusion in China. A third intended modification was the gathering of data from students studying outside the major cities of China. Ultimately, due to practical reasons, the data of this study, like the data of most Chinese research on attitudes towards inclusion, is mainly from a major city (Beijing). As the majority of the millions of children with disabilities in China live outside the biggest cities, in prospective studies data gathering should also be done in the rural and more remote areas.

Though inclusive education is an official goal in China, attitudes towards it appear to be negative or at best neutral. It is quite common to state that a negative attitude is caused by the peoples' lack of knowledge. An alternative explanation is that people are already quite well informed but the conclusions they have formed based on that information are different from the official policy. Appreciating these conclusions may offer a potential way to reveal existing barriers facing inclusion and the removal of those barriers would be the best possible promotion of inclusion.

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ARTICLE II

**BEIJING IN-SERVICE TEACHERS' SELF-EFFICACY AND ATTITUDES
TOWARDS INCLUSIVE EDUCATION**

By Olli-Pekka Malinen, Hannu Savolainen and Jiacheng Xu, 2012

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Beijing in-service teachers' self-efficacy and attitudes towards inclusive education

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ABSTRACT

Four-hundred-and-fifty-one in-service teachers from the Beijing municipality filled in a questionnaire containing a Teacher Efficacy for Inclusive Practices (TEIP) scale. The aim was to examine the factor structure of the TEIP scale among mainland Chinese in-service teachers, and to investigate the relationship between self-efficacy for inclusive practices, respondents' background factors and attitude towards inclusive education. The TEIP scale and its three sub-scales had good reliability. Confirmatory factor analysis gave support to a structure of three self-efficacy factors, efficacy in using inclusive instructions, efficacy in collaboration, and efficacy in managing behaviour.

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1. Introduction

Inclusive education can perhaps best be understood as a process towards school systems that welcome all learners despite of their background, disability or other personal characteristics. This task is a global challenge to which schools systems across world try to respond. It is self-evident that teachers play a major role in this process. From this starting point an international project was set up to study teachers' perceptions towards inclusion.¹ This paper reports results of a research that set to replicate findings on the structure of teacher self-efficacy for inclusive practices among Beijing in-service teachers. This study furthermore explored whether teachers' self-efficacy is related to their attitudes towards inclusive education.

1.1. Teacher self-efficacy

The concept of self-efficacy was first introduced by Bandura (1977) in his widely cited article *Self-efficacy: Toward a Unifying Theory of Behavioural Change*. According to him, self-efficacy is a judgement of capability to execute a given type of performance (2006b). Self-efficacy is grounded in the social cognitive theory that

claims people are able to exercise some control over their self-development and life circumstances even though many things depend at least partly on chance (Bandura, 2006a). Seen from this perspective, people are self-organizing, proactive, self-regulating and self-reflecting. Self-efficacy is constructed from four main sources: mastery experiences, seeing people similar to oneself manage task demands successfully, social persuasion and somatic and emotional states (Bandura, 1977; Tschannen-Moran & Woolfolk Hoy, 2007). From these four sources, mastery experiences are seen as the most powerful (Tschannen-Moran & Woolfolk Hoy, 2007).

Guskey and Passaro (1994, p. 628) have defined teacher efficacy as "teachers' belief or conviction that they can influence how well students learn, even those who may be considered difficult or unmotivated". The importance of teacher efficacy emerges from its cyclical nature: Higher levels of efficacy beliefs lead to greater efforts by teachers, which in turn leads to better performances, which again provides information for forming higher efficacy beliefs (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998).

Efficacy beliefs, especially those of experienced teachers, seem to remain quite stable when the teachers are exposed to new training. Yet, even experienced teachers with firm efficacy beliefs may have to re-evaluate their beliefs when facing new challenges, such as teaching in a new type of setting. In addition, one must remember that teacher efficacy is context-specific. Teachers may feel efficacious for teaching certain subjects to certain students in certain settings while perceiving themselves as less efficacious under different circumstances (Tschannen-Moran & Woolfolk Hoy, 2007; Tschannen-Moran et al., 1998).

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¹ This study is part of a wider comparative research project. The purpose of the project is to produce a knowledge base on the development of inclusive education from a teacher's perspective in different countries including China, Finland, South Africa, Slovenia, Lithuania and U.K.

Teacher efficacy research has been divided into two strands. In the 1970s, the RAND organization, a non-profit research and analysis institution, added two items dealing with teacher efficacy to their questionnaire. This RAND strand has commonly divided teacher efficacy into the dimensions of general and personal teacher efficacy. The general teacher efficacy refers to teachers' beliefs about how teachers in general can influence on student learning whereas personal teacher efficacy is a more individual and specific belief about the efficacy of their own teaching. The second strand of teacher efficacy research, sometimes called the Bandura strand, defines teacher efficacy as a type of self-efficacy. During the last decades, many scales have been built along the Bandura strand of teacher self-efficacy. The effect of various demographic and contextual factors on teacher self-efficacy has also been studied (Skaalvik & Skaalvik, 2010; Tschannen-Moran et al., 1998). The present study follows Bandura's definition of teacher efficacy as a type of self-efficacy.

Recent research findings have supported the idea that teacher self-efficacy should be conceptualized as a multidimensional construct. This seems to be true across various countries and cultural contexts. The number of teacher self-efficacy dimensions found in studies has usually varied from three to six, most likely depending on the measurement instrument and the focus of the research. The dimensions have often been associated with classroom management, instruction, motivating and engaging students, and, more recently, cooperating with colleagues and parents (Chan, 2008a, 2008b; Klassen et al., 2009; Romi & Leyser, 2006; Skaalvik & Skaalvik, 2007, 2010; Tschannen-Moran & Woolfolk Hoy, 2001, 2007)

1.2. Teacher efficacy research in China

In mainland China, a number of studies have tried to discover factors that have an effect on teacher efficacy, while the number of studies investigating the different dimensions of teacher efficacy is very limited (Tan, 2006; Wang, 2008; Xu, An, & Sun, 2003). The studies by Huang (2005), and Yu, Xin, and Shen (1995) extracted dimensions of general and personal teacher efficacy, thus following the RAND strand of teacher efficacy research.

The study conducted by Cheung (2008) is one of the few empirical studies from mainland China investigating the structure of different dimensions of teacher efficacy along Bandura's strand of self-efficacy. Cheung found two dimensions of self-efficacy from data collected among Shanghai teachers. The first dimension dealt with efficacy in teaching and student engagement, and the second with efficacy in maintaining discipline.

Chan (2008a), who studied Chinese in-service and pre-service teachers in Hong Kong, found six dimensions namely self-efficacy in teaching highly able learners, classroom management, guidance and counselling, enhancing student engagement, teaching to accommodate diversity and, teaching for enriched learning. In his later study Chan (2008b) added one more dimension, self-efficacy in working with colleagues and parents, to his list. In contrast, Cheung (2008), who analysed the data collected from Hong Kong in-service teachers, found only one dimension of teacher self-efficacy. These contradicting results may be due to different scales used for data collection. Considering these results, it is important to point out that the studies conducted among Hong Kong teachers are not fully applicable to mainland Chinese context. Even though the educational cultures in Hong Kong and mainland China are both strongly influenced by the same Confucian tradition, they have separate educational systems and dissimilar societies.

1.3. Inclusive education

Similar to teacher self-efficacy, inclusive education is also a concept that may carry different meanings in different contexts.

Regardless of growing international consensus towards inclusion as a universal goal there is not any single universally accepted definition of inclusive education (Ainscow, Booth, & Dyson 2006, p. 27; Allan & Slee, 2008, pp. 27–41; Kavale & Forness, 2000). Mitchell (2005) has nevertheless observed that there is some international agreement on some basic features of inclusive education for children with disabilities. These features include regular classes in neighbourhood schools with other same-age children, access to support services and aids, and access to individualised programmes. More generally, people often agree on inclusive values such as equity and participation but disagree on their implications for educational practices (Ainscow et al., 2006).

It is important to bear in mind that educational practices labelled as 'inclusive education' have a strong local flavour. There is inclusion taking place in many affluent Western democracies where well-resourced segregated special education is merging with well-resourced general education. It is common in these countries to see inclusive education as concerned mainly with the exclusion of students with disabilities and other 'special needs'. In many parts of the world this version of inclusion is irrelevant as there is no special education to deconstruct (Artiles & Dyson, 2005; Singh, 2009).

A culmination point in universal recognition of inclusion as a universal concept was the Salamanca Statement written as a result of UNESCO conference in 1994 (UNESCO, 1994). Today inclusion is more and more understood as a broader concept relating to all groups of children excluded from school and besides the educational and social arguments for inclusion inclusive education is seen justifiable also by economical arguments (UNESCO, 2009). Some recent studies suggest that promoting inclusive practices in schools may result in the overall learning outcomes of the entire school system. For example one of the three main conclusions of the influential McKinsey report (Barber & Mourshed, 2007) was that a common characteristic of world's top school systems is that ensure best possible instruction for every child. In addition, recent OECD Program for International Student Assessment report (OECD, 2011) points out that many top performing schooling systems have also done well in educating potentially marginalised groups of students. Some examples are Finland with its extensive learning support system as a part of the mainstream education, Canada in dealing with immigrant children and Shanghai China in including migrant children coming from rural areas (OECD, 2011).

The development of inclusive education in China has been influenced by international inclusion campaigns, such as the 1990 World Declaration on Education for All (UNESCO, 1990) and the 1994 Salamanca Statement (UNESCO, 1994) (Deng & Pei, 2009; Liu & Jiang, 2008). Since the 1980s, Chinese legislation and policies have also begun to promote an inclusive approach to education (Liu & Jiang, 2008; Qian, 2003). Finances are another impetus behind the progress of inclusive education in China. Accepting children with disabilities into regular classrooms is seen as a cost-effective approach (Xiao, 2007). While the Chinese government is promoting more inclusive approach to education it is important to notice that it is not aiming to educate all children with disabilities in regular classrooms. The inclusive education policy in mainland China is often described by slogan *learning in regular class as main body and special education school as backbone*. Most children with disabilities should be learning in regular classrooms while, special education schools would support the work of regular schools and provide education for the students with more profound special education needs. Actually, the Chinese government aims to build more special schools and it has set a target that by 2020 every town of more than 300,000 residents should have at least one special education school (CPG, 2010). Within this framework, teachers in both special education and regular schools, have their role in implementing inclusive education with Chinese characteristics.

One of the most important challenges for inclusive education in China has been the Chinese school culture that emphasises selection and competition. Teachers have commonly been rated based on what percentage of their students is enrolled in the most prestigious secondary schools (Deng & Pei, 2009). Hattie (2005) reminds that smaller classes do not guarantee more effective teaching practices. Nevertheless, in China large class sizes have been mentioned as an important barrier to inclusive education and they have been claimed to prevent teachers from using more individualized teaching methods (Deng & Manset, 2000; McCabe, 2003; Xiao, 2007). According to 2009 educational statistics (Ministry of Education of the People's Republic of China, 2010b), over half (56%) of primary school classes in Chinese cities had over 45 students.

Considering the large class sizes, it may be surprising that the average student–teacher ratios in Chinese schools are relatively low. In 2009, Chinese primary schools had an average of 17.88 students per teacher, and lower middle schools averaged 15.47 students per teacher (National Bureau of Statistics of China, 2010). In the Beijing municipality, student–teacher ratios were much smaller than the country average (Beijing Municipal Bureau of Statistics, 2010, p. 388; National Bureau of Statistics of China, 2010). In light of these statistics, it appears that lack of teaching staff is not amongst the biggest barriers to inclusion in China, especially in the Beijing municipality. Developing inclusive schools may be more a question of improving teachers' skills and attitudes, developing support systems and better utilizing human resources that already exist in schools.

1.4. Research on teacher self-efficacy for inclusive education

The global move toward more inclusive education has also had implications for the research on teacher self-efficacy. There seems to be growing interest towards what is required from teachers of inclusive classrooms and many recently developed instruments measuring self-efficacy contain items dealing with student diversity (Chan, 2008a; Skaalvik & Skaalvik, 2007; Tschannen-Moran & Woolfolk Hoy, 2001). However, the number of studies with teacher self-efficacy for inclusive education as their main focus is limited (Sharma, Loreman, & Forlin, 2011). These studies have often implemented general teacher efficacy scales (Almog & Shechtman, 2007; Romi & Leyer, 2006; Soodak, Podell, & Lehman, 1998). To fill this gap Sharma et al. (2011) have developed a new research instrument, Teacher Self-efficacy for Inclusive Practices (TEIP) scale. The TEIP scale aims to measure perceived teacher efficacy for teaching in inclusive settings and its developers as well as the recent study by Savolainen, Engelbrecht, Nel, and Malinen (2011) suggest that the scale can be divided into three sub-scales efficacy in using inclusive instructions, for efficacy in collaboration, and efficacy in managing behaviour.

1.5. Teacher self-efficacy and attitudes towards inclusive education

While the number of studies on inclusive education teacher self-efficacy is still quite limited, there is a sizeable international body of research on attitudes towards inclusive education. Bizer, Barden, and Betty (2003) have defined attitudes as a rather enduring, universal evaluation of a person, object or issue. Attitudes have been assumed to influence behaviour and vice versa (Ajzen & Fishbein, 2005; Olson & Stone, 2005). In their recent review study, de Boer, Pijl, and Minnaert (2011) concluded that the majority of teachers seem to hold undecided or negative attitudes towards inclusive education. Another important finding is that teachers' attitudes towards inclusion are often not based on ideological arguments, but rather on practical concerns about how inclusive education can be implemented (Burke & Sutherland, 2004; Scruggs, 1996). Also, in mainland China, general education

teachers' evaluations have been found to change greatly in a negative direction if they are asked to accept students with disabilities into their own classrooms (Chen, Zhang, Shi, Wang, & Wu, 2006).

Previous research suggests that there is a positive relationship between teacher self-efficacy and attitudes towards inclusive education. Meijer and Foster (1988) discovered that Dutch teachers with higher self-efficacy scores were more likely to feel that it was appropriate to place a problem student in a regular classroom. Weisel and Dror (2006), who studied Israeli elementary school teachers, concluded that teachers with a high level of self-efficacy had more positive attitudes towards inclusive education. Furthermore, the results of Soodak et al. (1998) indicated that US general educators' receptivity towards inclusion was associated with higher teacher efficacy. A path analysis by Brownell and Pajares (1999) revealed that teacher efficacy beliefs had a direct effect on their perceived success in instructing special education students studying in regular classrooms. Moreover, Almog and Shechtman (2007), who observed Israeli inclusive classrooms, concluded that teachers with higher teacher efficacy were coping better with several types of student problem behaviour. Additionally, Savolainen et al. (2011) who studied Finnish and South African in-service teachers by using the Teacher Self-Efficacy for Inclusive Practices (TEIP) scale found that the self-efficacy, especially efficacy in collaboration, had positive relationship with the attitudes towards inclusive education. Several studies have also found that teachers who have previous experience teaching students with special educational needs hold more positive attitudes than teachers with less experience (de Boer et al., 2011).

1.6. The rationale of the study

Considering that mainland China represents about one fifth of global population and has the largest educational system in the world, it is clear that the current number of carefully implemented studies about the structure of Chinese teachers' self-efficacy is very limited. The current study aims to fill this gap by using a sample of Beijing in-service teachers. Moreover, the current study may be the first study conducted in mainland China that explores the connection between in-service teachers' self-efficacy and attitudes towards inclusive education. In addition, this paper tries to contribute internationally by exploring a model for predicting attitudes towards inclusive education. Finally and most importantly, studying these relationships the current study aims to provide ideas for future areas of emphasis in teacher education when globally teachers are required to deal with more and more diverse learners.

1.7. Research questions

The current study had two research questions:

- (1) Can the three factor structure (efficacy in using inclusive instructions, efficacy in collaboration, and efficacy in managing behaviour) of teacher self-efficacy for inclusive practices, be replicated in the current mainland Chinese teacher sample?
- (2) Does teacher self-efficacy for inclusive practices along with respondents' background factors predict their attitudes towards inclusive education?

2. Method

2.1. Data collection

The sample was drawn from 451 primary and middle school teachers working in 132 different schools, 71.8% ($N=324$) in

mainstream school and 24.8% ($N = 112$) in special education schools in the Beijing municipality, which is a metropolis with over 20 million inhabitants. Year 2009 statistics show that Beijing had 110 346 full-time teachers working in mainstream primary and middle schools and only 844 full-time teacher working in special education schools (Beijing Municipal Bureau of Statistics, 2010, p. 390). Therefore, the proportion of special education school teachers in the current sample is many times bigger than their share of the total teacher population in Beijing municipality. Nonetheless, it was seen as important to include a considerable amount special education school teachers into the sample since they are considered to be the “backbone” of inclusive education in China, as mentioned in one of the previous sections.

Most participants were reached with the help of a group of teachers who participated in a weekly training session on teaching students with disabilities in regular classrooms. These training sessions were organized by the Beijing Special Education Centre, a city-level organization that provides in-service training for Beijing teachers on topics related to special and inclusive education. At the end of one training session, each teacher was given approximately ten questionnaires, which they then handed out to teachers in their respective districts and counties. A smaller proportion of participants were reached in district-level teacher training sessions, where one of the authors or his assistant handed out and collected the questionnaires. Due to the implementation of snow-ball sampling, the exact return rate of questionnaires could not be calculated, but over 90 per cent of the questionnaires that were handed out were returned.

The data for the current study was collected by using two recently developed scales, the Teacher Self-Efficacy for Inclusive Practices Scale (Sharma et al., 2011) and the Sentiments Attitudes and Concerns about Inclusive Education (SACIE) scale (Loreman, Earle, Sharma, & Forlin, 2007). In addition, participants were asked questions about their demographic information. Each questionnaire contained a cover letter that informed participants about the purpose of the study, and explained that the data was going to be dealt with confidentially and used solely for research purposes. The participants had the option of declining participation by not accepting the questionnaire or leaving part of the questionnaire incomplete, which some participants did. Even though no structured random sampling framework was implemented, the participants represent a rather varied sample of Beijing teachers (e.g., in terms of different districts and schools). Out of fourteen urban and suburban districts and two rural counties of the Beijing municipality, only one district was not represented in the sample.

2.2. Participant characteristics

In total 451 teachers from Beijing municipality participated in the current study. Participating teachers' mean age was 33.5 years ($SD = 6.32$) and they had an average of 12.8 years ($SD = 7.21$) teaching experience. 385 (85.4%) of participants were female, 58 (12.9%) were male and 8 participants (1.8%) did not reveal their gender. 324 (71.8%) of participants were teaching in regular school, and 112 (24.8%) in special education school; the data about school type was missing from the remaining 15 (3.3%) participants. When asking the grade level that the participants taught, 99 participants (22.0%) only responded that they taught in special education, one participant reported that she taught in pre-school, 212 (47.0%) participants were teaching in primary school (grades 1–6), 129 (28.6%) participants reported being middle school (grades 7–12) and 9 participants (2.0%) left the question of grade level unanswered. It appears that in the current sample middle school teachers were under-represented when compared to the total 54.9 per cent share of the total population of Beijing primary, middle

and special education teachers (Beijing Municipal Bureau of Statistics, 2010, p. 390).

The participants reported teaching 86 different subjects or subject combinations, the most common ones being Chinese language and literature (104 participants, 23.1%) and mathematics (56 participants, 15.5%) while 35 (7.8%) participants did not reveal what subject they were teaching. 429 participants (95.1%) reported their highest obtained degree was a bachelor level degree. The participants had obtained their degrees in 83 different major subjects, from which the most common were Chinese language and literature (68 participants, 15.1%), education administration (42 participants, 9.3%), primary school education (38 participants, 8.4%), and special education (37 participants, 8.2%). 34 participants (7.5%) did not report the major subject of their degree.

57 (12.6%) of the participants reported that they had ‘no experience’ teaching students with disabilities, 206 (45.7%) reported having ‘very little experience’, 149 (33.0%) had ‘moderate experience’, 28 (6.2%) had ‘much experience’, and two (0.4%) participants described themselves as having ‘very much experience’ the remaining 9 (2.0%) respondents did not specify their level of experience on teaching students with disabilities. About two thirds (304 respondents, 67.4%) reported that they had received *no training* or *little training* related to educating students with disabilities in regular classrooms. Over two thirds (310 respondents, 68.7%) responded that they knew nothing or only a little about local policies and legislation as they pertained to students with disabilities. A summary of participants' demographic background variables is shown in Table 1.

2.3. Translation of the questionnaire

The SACIE and TEIP scales are originally written in English. Nevertheless, by the time of the current study, they were also available in Chinese language versions that had been used for data collection in Hong Kong. These Hong Kong scales were used as a reference for creating mainland Chinese versions. First, the traditional characters used in Hong Kong were transformed into the simplified ones, which are used on the mainland. Second, some concepts were replaced by an equivalent that was more familiar to mainland Chinese respondents. Third, in some items, the style of writing was slightly revised. Throughout the adaptation process, the mainland Chinese versions of the SACIE and TEIP scales were cross-checked with the original English language scales. The questionnaire items dealing with demographic information were first written in English by one of the authors and then translated into Chinese. The adaptation of the Hong Kong SACIE and TEIP scales and the translation of demographic items were carried out by a native Mandarin speaker with a university degree in translation studies. The translator is fluent in English and has knowledge of inclusive education as well as experience working as a teacher in China. The adaptation and translation processes were carefully supervised by one of the Finnish authors who has good command of both English and Mandarin.

Review of the questionnaire was done in three phases. The first phase was to give the questionnaire draft to ten native Chinese with educational sciences backgrounds and a good command of the English language. Some of these reviewers also had experience working as teachers in Chinese schools. Based on these reviewers' comments, some adaptations were made to the questionnaire. The second step was to collect questionnaire data from 552 pre-service teachers from three Chinese teacher training institutions. During and after this round of data collection, authors received feedback from the respondents and conducted factor analysis and alpha coefficient reliability analyses for the scales. Based on these analyses, a decision was made to re-check the translation of a few statements on the SACIE scale.

Table 1
Participants' demographic background information.

| | |
|--|--|
| Age (mean) | 33.5 years (SD = 6.32) |
| Teaching experience (mean) | 12.8 years (SD = 7.21) |
| Gender | 85.4% female 12.9% male 1.8% missing |
| School type | 71.8% regular school 24.8% special education school 3.3% missing |
| Grade level | 47.0% primary school 28.6% middle school 22.0% special education 0.4% other 2.0% missing |
| Teaching subject | 23.1% Chinese language and literature 15.5% mathematics 53.6% other teaching subject 7.8% missing |
| Degree | 0.2% secondary school 95.1% bachelor degree 4.2% master's degree 0.4% missing |
| Major subject | 15.1% Chinese language and literature 9.3% education administration 8.4% primary school education 8.2% special education 51.4% other major subject 7.5% missing |
| Experience in teaching students with disabilities | 12.6% no experience 45.7% very little experience 33.0% moderate experience 6.2% much experience 0.4% very much experience 2.0% missing |
| Inclusive education training | 37.0% no training 30.4% little training 22.4% somewhat much training 7.5% much training 1.8% very much training 0.9% missing |
| Knowledge of local policies related to inclusive education | 8.9% none 59.9% poor 25.5% moderate 3.3% good 0.7% very good 1.8% missing |

The third and final phase of reviewing the translation was to give it to another native Chinese professional translator with much experience in questionnaire translation, who then produced another mainland Chinese version of the SACIE scale. This translator is very familiar with the writing styles in both mainland China and Hong Kong. After producing another mainland Chinese version of the SACIE scale, the translator, together with one of the authors, compared the new version with the original English version, the Hong Kong version and the earlier mainland Chinese version. In the crosschecking process, special attention was paid to those items that had been found most problematic in the reliability analyses. Finally, the decision was made for which version of the SACIE scale would be used in data collection for the current study. This final version had some SACIE items that were slightly different from the earlier mainland Chinese version for example in their vocabulary and word order.

2.4. SACIE and TEIP scale

The SACIE scale (Loreman et al., 2007) has 15 items that are assessed by a Likert-type scale with four response anchors: *Strongly*

Agree, *Agree*, *Disagree* and *Strongly Disagree*. Some items on the scale use reverse scores so that their scores have to be converted before analysis. High scores on the SACIE scale are an indicator of positive attitudes towards inclusive education. One SACIE item ('Students who require communicative technologies (for example Braille / sign language) should be in regular classes') was omitted from the analysis, as it reduced the reliability of the scale. After omitting this item, the SACIE scale had an acceptable alpha coefficient reliability ($\alpha = 0.69$).

The TEIP scale measures perceived teacher efficacy related to teaching in inclusive classrooms. The scale has 18 items assessed by a Likert-type scale with six response anchors: *Strongly Disagree*, *Disagree*, *Disagree Somewhat*, *Agree Somewhat*, *Agree* and *Strongly Agree*. Higher TEIP scale scores indicate respondents' higher efficacy in implementing inclusive practices. The TEIP scale can be divided into three sub-scales: efficacy in using inclusive instructions, efficacy in collaboration, and efficacy in managing behaviour (Sharma et al., 2011). The 18-item TEIP scale had high reliability in terms of the alpha coefficient ($\alpha = 0.91$). The alpha coefficients for the three sub-scales were 0.75 for efficacy in using inclusive instructions, 0.87 for efficacy in collaboration, and 0.88 for efficacy in managing behaviour. The correlations between the three sub-scales ranged from 0.51 to 0.56.

2.5. Data analysis

The statistical data analysis was done using SPSS Statistics 17.0 and Mplus 5.2 software. The reliability of the scales and the relevant sub-scales were analysed by means of Cronbach's alpha.

With the SEM-models the standard MAR approach (*missing at random*) was applied (Muthén & Muthén, 1998–2010) to guarantee maximum use of available data. Because some of the variables were slightly skewed, the parameters of the confirmatory factor model and subsequent path models were estimated using full-information maximum likelihood estimation (MLR estimator), that is robust to non-normality and non-independence of observations (Muthén & Muthén, 1998–2010).

Confirmatory factor analysis tested the factor structure of teacher efficacy in implementing inclusive practices and the path model was used to examine the relative importance of the three self-efficacy factors and some demographic variables as predictors of attitudes towards inclusive education. The demographic variables used were participants' teaching experience in years, participants' school type (a dichotomous variable, special education school/regular education school) and the level of participants' experience teaching students with disabilities (rated by a five-point scale ranging from 'very low' to 'very high').

To assess the goodness of fit of the models well-known indices, CFI, TLI, RMSEA, SRMR, and a chi-square test were used. For the CFI and TLI indices, values greater than 0.90 indicate an acceptable fit to the data, and values greater than 0.95 are typically considered to reflect a good fit to the data (Hu & Bentler, 1999). RMSEA values smaller than 0.08 and SRMR values smaller than 0.06 indicate a good fit (Hu & Bentler, 1999).

3. Results

Confirmatory factor analysis was used for testing whether the expected three factor model of the TEIP scale (see Table 2) fits the data of this study. Enough data from the variables used in this analysis was received from 437 respondents. The scale items were set to load only on the factors that were expected to measure each latent construct. The model had an acceptable fit to the data ($\chi^2 (101, N = 437) = 271.994$, CFI = 0.92, TLI = 0.91, RMSEA = 0.06, and SRMR = 0.06) and confirmed the three factor solution suggested by Sharma et al. (2011).

Table 2
Confirmatory factor analysis of items in the teacher self-efficacy for inclusive practices scale.

| Item | Factor 1 | Factor 2 | Factor 3 |
|--|----------|----------|----------|
| I can use a variety of assessment strategies (for example, portfolio assessment, modified tests, performance-based assessment, etc.) | 0.437 | | |
| I am able to provide an alternate explanation or example when students are confused. | 0.543 | | |
| I can accurately gauge student comprehension of what I have taught. | 0.591 | | |
| I can provide appropriate challenges for very capable students. | 0.688 | | |
| I am confident in my ability to get students to work together in pairs or in small groups. | 0.600 | | |
| I am able to work jointly with other professionals and staff (e.g. aides, other teachers) to teach students with disabilities in the classroom. | | 0.795 | |
| I am confident in my ability to get parents involved in school activities of their children with disabilities. | | 0.824 | |
| I can make parents feel comfortable coming to school. | | 0.740 | |
| I can collaborate with other professionals (e.g. itinerant teachers or speech pathologists) in designing educational plans for students with disabilities. | | 0.842 | |
| I am confident in informing others who know little about laws and policies relating to the inclusion of students with disabilities. | 0.687 | | |
| I am confident in my ability to prevent disruptive behaviour in the classroom before it occurs. | | | 0.800 |
| I can control disruptive behaviour in the classroom. | | | 0.884 |
| I am able to calm a student who is disruptive or noisy. | | | 0.846 |
| I am able to get children to follow classroom rules. | | | 0.793 |
| I am confident when dealing with students who are physically aggressive. | | | 0.619 |
| I can make my expectations clear about student behaviour. | | | 0.619 |

Factor 1 = Efficacy to use inclusive instructions, Factor 2 = Efficacy in collaboration, Factor 3 = Efficacy in managing behaviour.

NB! The item wordings are from the original English language version of the scale.

Two items, *I can assist families in helping their children do well in school*, and *I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated*, which seemed to load to all three factors, were left out of the model. No other modifications were made to this CFA model.

The participants' attitudes towards inclusive education measured by the SACIE scale were on average a little bit above the neutral midpoint 2.5 of the scale ranging from 1 to 4. The SACIE scale mean score was 2.65 (SD = 0.32) and the 99 per cent confidence interval for mean was 2.61–2.69. The close-to-midpoint mean score as well as the relatively small standard deviation indicate that the teachers, on average, did not express extreme attitudes for or against inclusion.

The relative importance of the three self-efficacy factors as predictors of inclusion attitudes, measured by the sum score of the SACIE scale, was tested by structural equation model (Fig. 1). In addition to the three self-efficacy factors of the CFA model as independent variables, the effect of three demographic variables were tested. These variables were teaching experience, experience teaching students with disabilities, and school type (regular school

or special education school). From these three demographic variables, teaching experience and school type did not have statistically significant connection with the attitudes and they were removed from the final model. Enough data from the variables used in the final model (see Fig. 1) was received from 449 participants. All four variables, three factors and the observed background variable were entered simultaneously to the predictive path model, and it had an acceptable fit to the data ($\chi^2(125, N = 449) = 279.630$, CFI = 0.94, TLI = 0.92, RMSEA = 0.05, and SRMR = 0.06). In the model, three correlations between error terms of the variables that loaded on the same self-efficacy factor were set free to produce a better fit to the data. This indicated that there were some relationships between the self-efficacy measure items were not accounted for by the three factor model. In addition, all non-significant correlations between independent variables were fixed at value 0. The analysis showed that efficacy in collaboration was the only self-efficacy factor that significantly predicted attitudes (std. Beta = 0.358, $p < 0.001$). In addition, experience in teaching students with disabilities predicted attitudes positively (std. Beta = 0.167, $p < 0.01$), indicating that teachers with more experience teaching students with disabilities are more positive towards inclusion. The other self-efficacy factors did not have any significant connection with the attitudes. The overall prediction level (R^2) of the model on attitudes was 0.24.

4. Discussion

The purpose of the current study was to investigate Beijing in-service teachers' self-efficacy for inclusive education as well as the relationship between their self-efficacy, demographic variables and attitudes towards inclusive education. Our results replicate the findings of the earlier studies in other countries (Sharma et al., 2011; Savolainen et al., 2011) that the TEIP scale can be divided into three sub-scales – efficacy in using inclusive instructions, efficacy in collaboration, and efficacy in managing behaviour – and therefore provides additional support to the validity of the instrument. The complete TEIP scale and its sub-scales had good reliability, and the data fit adequately the anticipated three factor solution. Second, of the three self-efficacy factors, efficacy in collaboration predicted relatively strongly attitudes towards inclusive education. The other two dimensions, efficacy in inclusive instruction and efficacy in managing behaviour, did not have a significant relationship with attitudes, when all self-efficacy factors and the participants' level of experience in teaching students with disabilities were controlled for in the path model.

The level of experience in teaching students with disabilities which was the only demographic background variable included in the final model also had relatively small but significant effect on attitudes towards inclusive education.

It is well recognized that unfavourable attitudes are a major barrier of inclusive education. Earlier studies also suggest that negative attitudes are often more related to practical concerns than ideological opposition (Burke & Sutherland, 2004; Scruggs, 1996). This study provides support for this general notion and adds to the existing knowledge by showing that teachers self-efficacy, i.e. their perception on how they are able to influence student learning in inclusive settings affects their attitudes. An interesting finding is also that the most critical practical concern is neither the pedagogical approaches nor the ability to manage student behaviour but rather a sense of efficacy in collaborating with other teachers, professionals and parents. Many policy recommendation documents such as recent McKinsey report emphasise collaboration among teachers as an effective tool for improving schools and schools systems (Mourshed, Chijioko, & Barber, 2010, p.77). Also in the context of mainland Chinese schooling, teachers' collaborative planning of teaching activities and learning from each other has

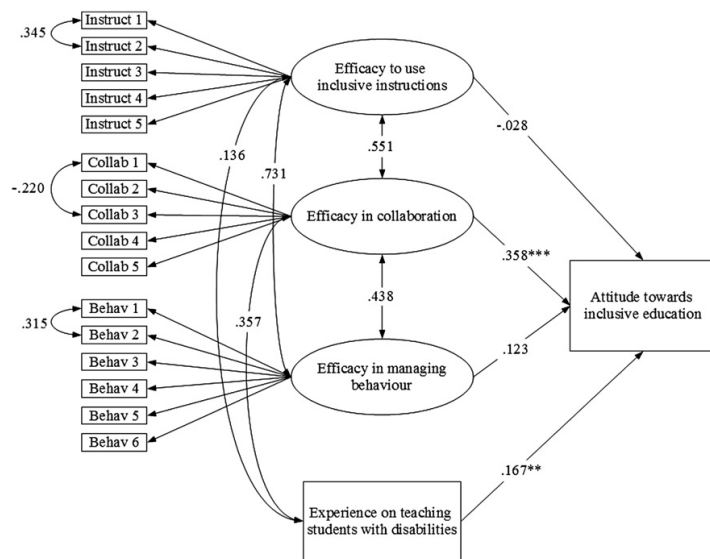


Fig. 1. SEM for explaining attitudes toward inclusive education.

been seen as an important factor behind the Shanghai students' top-performance in the OECD (2011, p. 88) PISA study. Therefore the findings of the current study as well as influential policy recommendation documents suggest that the idea of collaboration in teaching and planning of teaching should be given more emphasis in school management as well as in pre- and in-service teacher education.

The results of the current study confirm that teacher self-efficacy can be treated as a multidimensional concept. This finding replicates the results of several other studies (Chan, 2008a, 2008b; Klassen et al., 2009; Skaalvik & Skaalvik, 2007; Tschannen-Moran & Woolfolk Hoy, 2001). The current investigation adds a new element to most previous studies on teacher self-efficacy in that its data was collected by an instrument measuring efficacy for inclusive practices. Even though teachers working in both inclusive and less-inclusive settings need similar types of competencies, the successful implementation of inclusive education may require special emphasis on certain sub-areas of teacher efficacy. This study is well in line with inclusive education literature and some earlier studies (e.g. Savolainen, Engelbrecht, Nel, & Malinen, 2011) in suggesting that collaboration may bear special importance in making attitudes towards inclusion more favourable.

In some earlier studies, stronger self-efficacy also has been found to contribute to more positive attitudes towards inclusive education (Meijer & Foster, 1988; Soodak & Podell, 1993; Soodak et al., 1998). Furthermore, there are findings suggesting that self-efficacy can predict teachers' job satisfaction and it may also be related to teachers' occupational commitment (Klassen & Chiu, 2010, 2011). Therefore, providing teachers support to increase their self-efficacy in teaching inclusive classes may not only improve their attitudes but also produce dedicated educators that enjoy their work.

According to the theory of self-efficacy (Bandura, 1977), efficacy beliefs could be changed by utilizing four different sources, from which mastery experiences are seen as the most powerful. However, it should be emphasized that simply exposing teachers to inclusive classrooms does not automatically produce positive mastery experiences and a higher level of self-efficacy, which in turn will positively change attitudes. Placing teachers in situations

that are too demanding without extra support is often counter-productive. Negative experiences decrease the level of self-efficacy and also produce negative attitudes (Bizer et al., 2003). Having said this, even with abundant support and intensive training provided, it is unrealistic to expect teachers' efficacy beliefs to change overnight. As Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) highlight, the experienced teachers' efficacy beliefs seem to remain quite stable even when the teachers participate in new training.

In the current study, those respondents having more experience in teaching students with disabilities were found to hold more positive perceptions towards inclusion even when the effects of self-efficacy were controlled for. This result seems quite understandable if we accept the common understanding that behaviour and attitudes interact with each other. People often pursue consistency between their actions and their evaluations of a person, object or issue (Olson & Stone, 2005). Therefore, those teachers who have been involved more in teaching students with disabilities may have changed their evaluations of inclusive education to become more consistent with their behaviour.

The positive effect of experience in teaching students with disabilities on attitudes remained statistically significant when the participants' number of teaching years was controlled in the regression model. This result addresses the need to provide teachers' with more possibilities to actually teach classes that have students with disabilities in them, since a more general teaching experience does not seem to produce the desired attitudinal outcomes. Moreover, the effect of experience in teaching students with disabilities on teachers' attitudes did not seem to depend on whether the teacher was working in a regular or a special education school.

Finally, these results suggest that future pre- and in-service teacher education programs should emphasize developing teachers' self-efficacy, particularly collaboration skills, in addition to training their competence in behaviour management and classroom instruction. Building self-efficacy in collaboration may require changes in initial teacher training programs. In many countries, only special education teachers get teaching practice in teaching pupils with disabilities, and their training is carried out

separately from other teacher training programs. Self-efficacy theory and the findings of this study suggest that attitudes of future teachers might be more favourable towards inclusion if they had more positive learning experiences in inclusive teaching in collaboration with their peer teacher trainees during initial teacher training programs.

4.1. Limitations and further suggestions

The current study has some obvious limitations. First, the data was collected from 451 Beijing in-service teachers and no formal random sampling framework was applied. This dataset is not a representative sample of the total population of Chinese in-service teachers. Second, the data was collected by using a questionnaire that had been translated from another language. The questionnaire went through a rigorous translation and reviewing process, but it is still possible that some items in the Chinese scales do not capture the whole essence of the original English language versions. Third, the three factors of teacher self-efficacy for inclusive practices that were extracted in the current study may not be able to reflect the complexity of such self-efficacy totally and there may be additional factors contributing to teachers' sense of efficacy. Finally, the results were based on a cross-sectional analysis. Therefore inferences about the between teacher self-efficacy and attitudes towards inclusive education have to be done with caution. Longitudinal data would tell us more about how changes in time and contextual factors affect teacher self-efficacy and attitudes towards inclusion. One obvious possibility to extend the approach taken in this study is a cross-lagged path model in which it could be tested which assumption fits that data better: whether it is rather that the baseline self-efficacy predicts later attitudes or whether baseline attitudes predict later self-efficacy, or whether the direction of prediction is reciprocal.

Considering that mainland China represents about one fifth of world total population, it is surprising that there are only a few previous studies dealing with the structure of teacher self-efficacy, whereas most of the investigations have tried to identify factors affecting the teachers' efficacy beliefs. In this respect, the current study that extracted a three factor structure of teacher self-efficacy contributes to building a more solid foundation for future teacher self-efficacy research. In addition, the current study was probably the first study conducted in mainland China that explored the connection between in-service teachers' self-efficacy and attitudes towards inclusive education.

At least in terms of legislation, policies and statements, the Chinese government appears to be committed to the principles of inclusion, even though the local interpretation of inclusive education is not exactly the same as the broad definition of inclusion promoted by international organisations such as UNESCO (2009). The Chinese model of inclusive education is often described with the slogan, 'learning in a regular class should be the main body, with special education school as a backbone'. Therefore, the aim is to educate most children with special educational needs in regular classrooms. At the same time, special schools are maintained as centres of expertise supporting the work of regular schools and providing education for the students with more profound special education needs. During the last decades this Chinese model of inclusive education has expanded rapidly and the majority of in-school students registered as having disabilities are already studying in regular classes (Ministry of Education of the People's Republic of China, 2010a). Along with the notable quantitative development of inclusion, many countries are seeking ways to ensure the adequate quality of inclusive education. How then, can it be guaranteed that teachers feel confident and willing to provide quality education for their students with disabilities? Based on the

results of the current study, directing more emphasis on developing teachers' collaboration skills may be one potential answer to this question.

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ARTICLE III

**DIMENSIONS OF TEACHER SELF-EFFICACY FOR INCLUSIVE
PRACTICES AMONG MAINLAND CHINESE PRE-SERVICE TEACHERS**

By Olli-Pekka Malinen, Hannu Savolainen and Jiacheng Xu, in press

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Dimensions of Teacher Self-Efficacy for Inclusive Practices among Mainland Chinese
Pre-Service Teachers

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Abstract

Five hundred fifty mainland Chinese students from two normal universities and one college of special education were given a questionnaire that contained a Teacher Efficacy for Inclusive Practices (TEIP) scale. The purpose of the study was a) to test the factor structure of teacher self-efficacy for inclusive practices, b) to investigate the relationship between teacher self-efficacy for inclusive practices and attitude toward inclusive education, and c) to study the relationship between participants' attitudes and other variables related to inclusive education. Confirmatory factor analysis gave support the hypothesis of three correlated but separate factors of self-efficacy: Efficacy to use inclusive instructions, Efficacy in collaboration, and Efficacy in managing behaviour. As the initial factors were correlated, another model with second-order factor to which the three factors loaded, was tested. This model fit the data equally well. The second-order factor, which was named as General teacher self-efficacy for inclusive practices, explained significantly participants' attitudes to inclusive education.

Keywords: inclusive education; teacher education; self-efficacy; factor structure; China

Introduction

Inclusive education

There is an increasing global consensus about inclusion as a general aim. However, there are still varied understandings and definitions of inclusive education. According to Ainscow, Booth, and Dyson (2006), people often agree on inclusive values like equity and participation but disagree on their implications for educational practices. Mitchell (2005) has observed that some features of inclusive education such as access to support services and aids; regular classes in neighbourhood schools; and individualized study programmes are being accepted broadly

across different countries and contexts. It is also widely acknowledged that teachers are one of the most important actors in the process towards inclusive education (Savolainen, Engelbrecht, Nel, & Malinen, 2012).

This study had three aims. The first aim of was to test and factor analyse a scale meant for measuring teacher self-efficacy related to inclusive education by using data collected in mainland China. The second aim was to investigate the relationship between teacher self-efficacy and attitudes toward inclusive education. The third purpose of this study was to examine the relationship of self-efficacy for inclusive practices and other variables related to inclusive education. The current study is part of a wider comparative research project that aims to produce a knowledge base on the development of inclusive education from a teacher's perspective in several countries including China, Finland, South Africa, Slovenia, Lithuania, and England.

Inclusive education in mainland China

The development of Chinese inclusive education has been influenced by global campaigns, like the 1990 World Declaration on Education for All (UNESCO, 1990) and the 1994 Salamanca Statement (UNESCO, 1994),(Deng, 2009; Liu & Jiang, 2008). Since the 1980s, Chinese legislation and policies have also begun to promote an inclusive approach to education (Liu & Jiang, 2008; Qian, 2003). The rapid growth of inclusive education in China has also been caused by financial factors. In a situation where more and more children with disabilities go to school, it is less expensive to accept children with disabilities into regular classrooms, instead of expanding the network of separate special schools (Liu & Jiang, 2008; Xiao, 2007).

One of the most important challenges for inclusive education in China is said to be large class sizes. In 2010, the average class size in Chinese primary schools was 37.4 students (OECD,

2012, p. 450). In large classes, teachers prefer less individualized methods (Xiao, 2007). Another barrier to inclusion has been the exam-oriented school culture (Deng, 2009). Teachers are under heavy pressure to improve their non-disabled students' test scores which are the most important standard to evaluate learning outcomes and the quality of teaching. In some cases, students with disabilities have even been sent home from school because teachers worry that their presence may disturb other students (Deng & Poon-McBrayer, 2012).

One of the most intense academic discussions around inclusive education among Chinese scholars has been dealing with the question of whether inclusive education even exists in mainland China. The direct Chinese translation of inclusive education is *quánnà jiàoyù* or *rónghé jiàoyù*. Both of these concepts are quite seldom used outside academic circles. In everyday communication teachers and school administrators use much more often the term *suībān jiùdú* (*learning in regular classrooms*) that is an administrative term for the policy of accepting students with disabilities in regular classrooms.

Chinese *suībān jiùdú* policy, which dates from the 1980s, has some differences compared to the international inclusive education agenda. One concrete difference is that *suībān jiùdú* mainly caters for children with visual impairments, hearing impairments, and mental retardation, and not all children with diverse needs (Deng et al., 2001; Deng & Zhu, 2007). In 2009 over four-fifths (83%) of primary school students who were officially counted as *suībān jiùdú* students, had been classified under one of the above mentioned three disability categories (Ministry of Education, 2010). Due to its unique characteristics, some scholars make a distinction between the Chinese *suībān jiùdú* and inclusive education. Others, like us in current paper, use these concepts interchangeably, at least in academic exchanges outside mainland China (Deng & Zhu, 2007; Li, 2009; Liu & Jiang, 2008). Our justification for doing so is that

the Chinese *suibān jiùdú* policy cannot be considered purely home-grown initiative. Its development has also been strongly influenced by the high-profile international inclusion campaigns.

Teacher efficacy

According to Guskey and Passaro (1994, p. 628) teacher efficacy refers to “teachers' belief or conviction that they can influence how well students learn, even those who may be considered difficult or unmotivated”. Recent decades have witnessed a large increase in the quantity of teacher self-efficacy research (Klassen, Tze, Betts, & Gordon, 2011). One potential reason behind the popularity of teacher self-efficacy research may be its cyclic nature: stronger self-efficacy beliefs are assumed to result in greater efforts by teachers, which in turn lead to better performances, which again provides information for forming higher efficacy evaluations (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998).

Experienced teachers' efficacy beliefs are assumed to remain quite stable even when the teachers participate in new professional development (Tschannen-Moran et al., 1998; Ross, & Bruce, 2007). The beginning teachers' self-efficacy is assumed to be more malleable, especially during their training and the first years of teaching, (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Another phenomenon related to pre-service and early-career teachers' self-efficacy is the fluctuation of efficacy beliefs that could be explained by the “efficacy boost” the student teachers receive during the training and the “reality shock” they face when they fully realise all the demands and expectations of teaching profession (Woolfolk Hoy & Burke Spero, 2005). An additional source of instability in pre-service teachers' self-efficacy evaluation may be the ambiguity about the performance undertakings, since they may possess only little basis for judging their own efficacy for teaching activities (Bandura, 2012).

Teacher efficacy has been studied along two, partly intertwined, strands (Tschannen-Moran et al., 1998). The first strand was born in the 1970s when the RAND organization added two items dealing with teacher efficacy to their questionnaire. This strand has usually divided teacher efficacy into two dimensions—general and personal teacher efficacy. The second strand of teacher efficacy is based on the work of Bandura (1977). According to Bandura (2006), self-efficacy is a judgment of capability to execute given type of performances. Theoretically self-efficacy derives from four different sources: mastery experiences, vicarious experiences, social persuasion, and somatic and emotional states (Bandura, 2010; Tschannen-Moran & Woolfolk Hoy, 2007). From these different sources of self-efficacy, mastery experiences are assumed to be most influential (Tschannen-Moran et al., 1998; Tschannen-Moran & Woolfolk Hoy, 2007). This study is conducted along the Bandura's strand that conceptualises teacher efficacy as one domain of self-efficacy.

Research findings have supported the idea that teacher self-efficacy can be divided into different factors (Chan, 2008; Klassen et al., 2009; Skaalvik & Skaalvik, 2010; Tschannen-Moran & Woolfolk Hoy, 2007). This seems to be true across various countries and cultural contexts (Chan, 2008; Klassen et al., 2009; Skaalvik & Skaalvik, 2010), even though some culture specific features of teacher self-efficacy may exist (Ho & Hau, 2004; Lin & Gorrell, 2001). The number of teacher self-efficacy factors extracted has usually varied from three to six (Chan, 2008; Klassen et al., 2009; Romi & Leyser, 2006; Skaalvik & Skaalvik, 2010; Tschannen-Moran & Woolfolk Hoy, 2001), most likely depending on the measurement instrument and the focus of the research. The extracted factors have often been related to motivating and engaging students, instructing students, managing classroom, and more recently, cooperating with colleagues and parents. Some studies have been able to extract

second-order factors, suggesting that there might be an underlying construct of general teacher self-efficacy (Skaalvik & Skaalvik, 2010; Tschannen-Moran & Woolfolk Hoy, 2001).

Chinese research on teacher efficacy

In the mainland China the research on teacher efficacy (*jiàoshī xiàonéng* in Chinese) has dealt with issues such as the effect of teacher efficacy on teachers' educational practices and student learning outcomes, the relationship between teachers' demographic factors and their teacher efficacy, the relationship between teacher efficacy and teachers' work related stress and psychological well-being, and the techniques of developing teacher efficacy (Tan, 2006; Wang, 2008). On the other hand, the number of studies investigating the structure of teacher efficacy is very limited and it has not received much attention among mainland Chinese researchers since the 1990s studies by scholars such as Yu, Xin and Shen (1995) (Wang, 2008; Xu, An, & Sun, 2003). A few Chinese studies on teacher efficacy have extracted the factors of general and personal teacher efficacy (Huang, 2005; Yu, Xin, & Shen, 1995). One of the few more recent mainland Chinese empirical studies that investigate the structure of teacher efficacy along Bandura's strand of self-efficacy (*zìwǒ xiàonéng* in Chinese) was conducted by Cheung (2008) who found two principal components of self-efficacy from data collected among Shanghai teachers. The first component was related to instruction and student engagement, and the second to maintaining discipline.

Chan (2008), conducted his study among in-service and pre-service teachers in Hong Kong, extracted a model with six factors of teacher self-efficacy. Contrary to the his results, Cheung (2008) who analyzed the data collected from Hong Kong in-service teachers, found only one principal component that was named general teacher efficacy.

Teacher self-efficacy related to inclusive education

Previous research seems to support the idea that a higher teacher self-efficacy can have a positive effect on attitudes toward inclusive education. In the U.S. Soodak, Podell, and Lehman (1998) found that mainstream teachers' acceptance of inclusion was connected with higher teacher efficacy. In Dutchland Meijer and Foster (1988) discovered that teachers with higher self-efficacy scores were less likely to refer a student with behaviour and/or learning difficulties to special. In Israeli Weisel and Dror (2006), concluded that elementary school teachers with a high level of self-efficacy had more positive attitudes towards inclusive education.

Studies conducted in mainland China have also indicated that teacher self-efficacy can be used to predict attitudes toward inclusive education. In a recent study Zan, Liu, Wang and Sharma (2011) found that those Shanghai teachers who had higher level of self-efficacy showed less anxiety about inclusive education. In another new study from mainland China, Malinen Savolainen and Xu (2012) concluded that Beijing teachers' self-efficacy in collaborating with parents, colleagues and other professionals explained relatively strongly teachers' attitudes towards inclusive education.

Research questions

The current study aimed to answer the following three research questions:

- (1) What is the structure of teacher self-efficacy for inclusive practices?
- (2) What is the relationship between teacher self-efficacy for inclusive practices and attitudes toward inclusive education?
- (3) What is the relationship between self-efficacy for inclusive practices and other variables related to inclusive education?

Method

Participants

The selection of the participants was based on convenience and no random sampling was implemented. The data were collected by the first author or by his assistants primarily during lectures or some other gathering part of the students' coursework. A total of 552 Chinese university students participated in this study. The students came from three universities, of which two were normal universities that have teacher training as their main function. The third university was a special education college. One normal university ($n = 126$) is located in Chongqing, a major city in southwestern China. The other normal university ($n = 258$) and the special education college ($n=168$) are located in Beijing.

About four-fifths (79.5 %) of the participants were female. The participants' mean age was 20.8 years ($SD = 2.04$). The most common major subjects taken by the participants were special education (26.1%), pre-school education (18.7%), and general education (13.4%). About two-thirds (67.0%) of the participants reported having at least some experience from interacting with persons with disabilities. In open ended responses, where the participants described the nature of these interactions, they varied greatly from interacting people with disability whom they had met on the street to having such a person as a family member. Some examples of the responses that fell between these two extremes were having a people with disabilities as relatives, friends, classmates, neighbors or having met them while doing voluntary work.

About four-fifths (79.7%) of the participants rated themselves as having either no or poor knowledge of local legislation or policy as it pertains to students with disabilities. The vast majority (90.0%) answered "no experience" or "very little experience" to a question asking about their experience teaching children with disabilities. The concept of inclusive education

(translated *suibānjiùdú*) “was not at all familiar” to only 5.3 % of the participants. The participants’ attitude toward inclusive education, measured by the mean score of the Sentiments Attitudes and Concerns about Inclusive Education (SACIE) scale (Loreman, Earle, Sharma, & Forlin, 2007), was very close to the mid-point of 2.5 (Mean = 2.51; SD = 0.31). This means that their attitude was neither very positive nor negative. Summary of the participant characteristics can be found in Table 1.

Table 1 Participant characteristics.

| | |
|--|--|
| Age (mean) | 20.8 years (SD = 2.04) |
| Gender | 18.3 % , male 79.5 % female 2.2 % missing |
| Type of institution | 70.0 % normal University 30.0 % special education college |
| Major subject | 26.1 % special education 18.7 % pre-school education 13.4 % general education 11.6 % English 27.5 % other major subject 2.7 % missing |
| Experience in teaching students with disabilities | 49.5 % no experience 40.6 % very little experience 7.2 % moderate experience 1.1 % much experience 0.2 % extremely rich experience |
| Experience in interacting with people with disabilities | 67.0 % Yes 31.3 % No 1.6 % missing |
| Familiarity of the concept “inclusive education” | 5.3 % not at all familiar 48.9 % slightly familiar 18.5 % somewhat familiar 19.2 % familiar 5.1 % very familiar 3.1 % missing |
| Self-confidence in teaching students with disabilities | 4.9 % very low 24.1 % low 33.7 % moderate 30.4 % high 5.3 % very high 1.6 % missing |
| Knowledge of local policies about educating students with disabilities | 18.7 % none 61.1 % poor 17.9 % moderate 0.7 % good 0.0 % very good 1.6 % missing |
| Attitude towards inclusive education (mean) ¹ | 2.51 (SD = 0.31) |

¹Attitude was measured by the mean score of the SACIE scale. SACIE scale had four response anchors ranging from 1 to 4. Higher values indicate more positive attitude towards inclusive education.

Questionnaire

Data were gathered by using a questionnaire that had a cover letter and other three sections. In the cover letter the participants were told about the purpose of the study, and explained that their responses were going to be dealt with confidentially and used solely for research purposes. The participants could decline participation by not completing the questionnaire. Less than ten exerted this right by leaving the whole questionnaire empty and some people at least one or more individual items unanswered. The first section after the cover letter section dealt with the participants' demographic information such as their age, gender, and major subject.

The second section of the questionnaire contained the SACIE scale. The scale consists of 15 statements (e.g. "I am concerned that students with disabilities will not be accepted by the rest of the class."); Students who have difficulty expressing their thoughts verbally should be in regular classes). The items are assessed by a Likert-type scale with four response anchors: Strongly Agree, Agree, Disagree, and Strongly Disagree. The scoring of several SACIE items must be reversed before analysis. Higher SACIE scale scores indicate more positive attitudes toward inclusive education. In the current study the SACIE scale had moderate reliability in terms of Cronbach's alpha ($\alpha = 0.68$).

The third section of the questionnaire was formed by the TEIP scale (Sharma, Loreman, & Forlin, 2012), which is designed to measure perceived teacher efficacy to teach in inclusive settings. The TEIP scale has 18 items assessed and six response anchors: Strongly Disagree, Disagree, Disagree Somewhat, Agree Somewhat, Agree, and Strongly Agree. The higher the score on the TEIP scale the higher is a respondent's efficacy to implement inclusive practices. In previous studies (Malinen et al., 2012; Savolainen et al., 2012; Sharma et al., 2012) the TEIP scale has also been divided into three subs-scales, namely Efficacy to use inclusive instructions,

Efficacy in collaboration, and Efficacy in managing behaviour. In the current study the TEIP scale had a high reliability. The alpha coefficient for the total scale was .90. For the three sub-scales the alpha values were from .75 to .85 and correlations between the three sub-scales ranged from .53 to .60.

Translation of the questionnaire

The first part of the questionnaire was originally written in English and then translated into Chinese. The translation was made by a native Chinese with University degree in translation studies. The translator had an excellent command of English, knowledge of inclusive education, and practical classroom teaching experience from China. The quality of the translation was constantly supervised by one of the Finnish authors, fluent in both English and Chinese.

The SACIE and TEIP scales were originally written in English but they had also been translated into Chinese and used in Hong Kong. For the current study, the Hongkong scales were adapted to fit the mainland Chinese context. First, the traditional characters were transformed into the simplified ones. Second, some concepts were replaced by corresponding mainland Chinese concept. Third, the style of writing was slightly revised in some questionnaire items to make them appear more natural to the mainland Chinese readers. Throughout the adaptation process the mainland Chinese versions of the SACIE and TEIP scales were crosschecked with the original English language scales. Finally, the questionnaire was reviewed by ten native Chinese who had studied educational sciences and were fluent in English language. Some of the reviewers had also worked as teachers in Chinese schools. After reviewing some minor adaptations were made to the questionnaire.

Data analysis

Data were analyzed by SPSS Statistics 17.0 and Mplus 5.2 software. The reliability of the scales and the sub-scales were analyzed by means of Cronbach's alpha. Confirmatory factor analyses were used to test the two models of teacher efficacy to implement inclusive practices. With the factor the standard missing at random (MAR) approach was applied (Muthén & Muthén, 1998-2010) to guarantee maximum use of available data. The parameters of the confirmatory factor models were estimated using maximum likelihood (ML) estimation. (Muthen & Muthen, 1998-2010).

To assess the fit for the confirmatory factor analysis, CFI, TLI, RMSEA, and SRMR indices, as well as a chi-square test, were used. According to Hu and Bentler (1999) for the CFI and TLI indices, values greater than .90 indicate an acceptable fit to the data, and values greater .95 are considered to reflect a good fit to the data. RMSEA values smaller than .08 and SRMR values smaller than .06 indicate a good fit (Hu & Bentler, 1999). Finally, the series of correlations were calculated, and t-tests, Analysis of variabce (ANOVA), and mean scores with confidence intervals were used to test the relationship between teacher self-efficacy for inclusive practices and other variables related to inclusive education.

Results

The structural validity of the TEIP scale was analyzed using confirmatory factor analysis (CFA). In the first model, that included data from 545 respondents, the items were set to load only on the factors they were meant to measure. The model had a good fit to the data ($\chi^2(136, N = 545) = 3703.719$, CFI = .957, TLI = .947, RMSEA = .05, and SRMR = .038) and confirmed the three factor solution found in other studies (Malinen et al., 2012; Savolainen et al. 2012; Sharma et al., 2012). Several correlations between error terms of the variables that loaded on

the same factor were set free in order to produce a better fit to the data. One TEIP scale item, “I can make my expectations clear about student behavior”, seemed to load to all three factors and it was left out of the model.

Table 2. Confirmatory factor analysis of items in the Teacher Self-Efficacy for Inclusive Practices scale.

| Item description | Factor 1 | Factor 2 | Factor 3 |
|---|----------|----------|----------|
| Using variety of assessments | .411 | | |
| Providing alternative explanations | .619 | | |
| Designing individualised learning tasks | .593 | | |
| Ability to gauge student comprehension | .529 | | |
| Working with very capable students | .594 | | |
| Making students work in small groups | .701 | | |
| Assisting families to help their children | | .634 | |
| Work jointly with professionals | | .723 | |
| Involving parents in school activities | | .691 | |
| Making parents feel comfortable | | .694 | |
| Collaborating with professionals | | .708 | |
| Informing others about laws and policies | | .571 | |
| Ability to prevent disruptive behavior | | | .723 |
| Controlling disruptive behavior | | | .837 |
| Ability to calm a disruptive student | | | .808 |
| Getting children to follow classroom rules | | | .736 |
| Dealing with physically aggressive students | | | .651 |

Note. Factor 1 = Efficacy to use inclusive instructions, Factor 2 = Efficacy in collaboration, Factor 3 = Efficacy in managing behaviour

As the three factors in the model were highly correlated, a hierarchical model including a second-order factor, measured by the three primary factors, was tested (Figure 1). All three primary factors had high loadings (.997, .805, and .678, respectively) with the second order factor. Model 2 had an equally good fit to the data ($\chi^2 [136, N = 545] = 3703.719$, CFI = .957, TLI = .947, RMSEA = .05, and SRMR = .038). The second-order factor was named General teacher self-efficacy for inclusive practices.

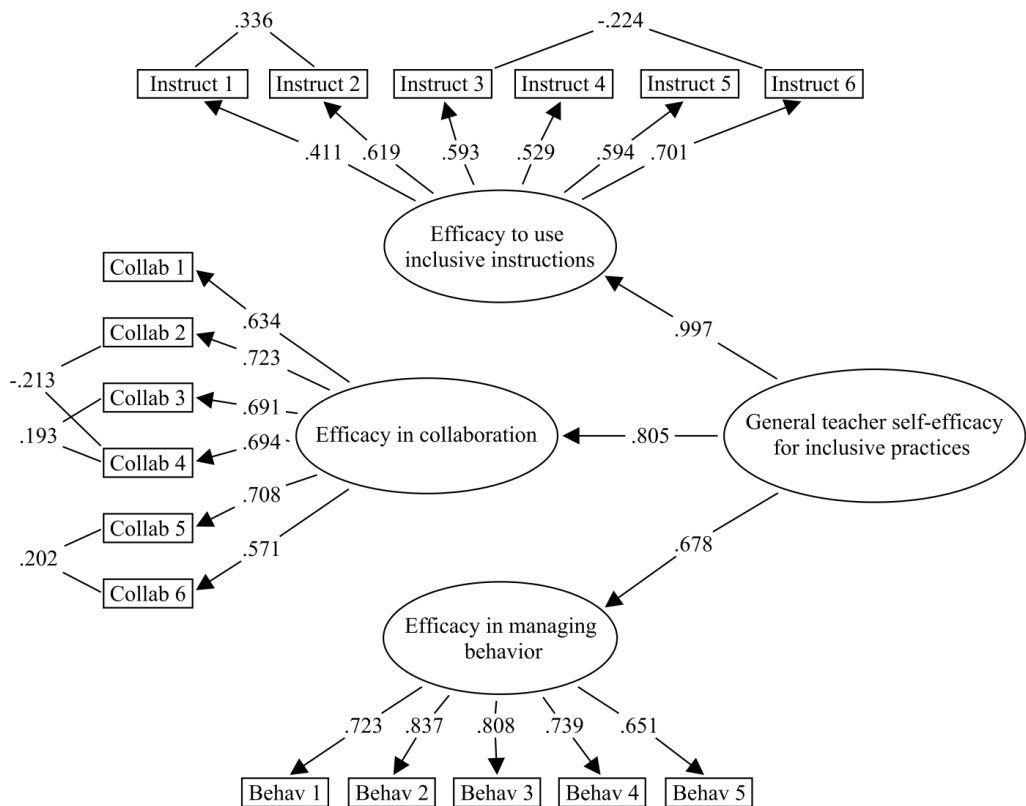


Figure 1. Factor structure of teacher self-efficacy for inclusive practices

There was a moderately strong, positive correlation ($r = .33, p < 0.001$) between the second order factor General teacher efficacy for inclusive practices and participants' attitudes towards inclusive education, represented by the sum score of the SACIE scale. In addition, the analysis revealed statistically significant correlations between some of the other variables related to inclusive education and the second order factor General teacher efficacy for inclusive practices. These correlations and their respective p-values are shown in

Table 3. The strongest correlation ($r = .39, p < 0.001$) was with the participants' self-confidence in teaching students with disabilities.

Table 3 Correlations between the second-order factor General teacher self-efficacy for inclusive practices and other variables related to inclusive education

| | Correlation | P-value |
|--|-------------|---------|
| Familiarity with the concept inclusive education (suiban jiu) | 0.01 | < 0.05 |
| Familiarity with the concept student with special educational needs | 0.11 | < 0.05 |
| Knowledge of local laws and policies related to students with disabilities | 0.16 | < 0.01 |
| Self-confidence in teaching students with disabilities | 0.39 | < 0.001 |
| Experience in teaching students with disabilities | 0.11 | < 0.05 |

The following group comparisons were conducted using the sum score of the TEIP scale instead of the factor model. A t-test was used to evaluate the difference between those participants having and those not having experience from interacting with persons with disabilities. The t-test showed that the mean score of those who had previous experience in interacting with persons with disabilities was significantly ($p < 0.001$) higher than those who did not have such experience.

A one-way ANOVA test was conducted to assess the relationship of participants' major subjects and their self-efficacy for inclusive practices. For this purpose, the 29 major subjects were divided into eight groups, namely education ($n=70$); special education ($n=140$); early childhood education ($n=95$); language ($n=72$); science and math ($n=31$); art, music, and physical education ($n=37$); history and social sciences ($n=39$); and rehabilitation and educational technology ($n=29$). The analysis showed that participants' major subjects were related to their teacher efficacy for inclusive practices ($F = 4.649; p < 0.001$).

TEIP scale mean scores with 95 % confidence intervals were calculated to assess the level of self-efficacy in different major subject groups. The non-overlapping confidence intervals indicated that students in the group art, music, and physical education scored higher compared to education, pre-school education, or history and social sciences majors. Furthermore, students in the group rehabilitation and education technology had higher self-efficacy than students in education, special education, pre-school education, or history and social sciences group (see Table 4).

Table 4 Mean scores, standard deviations, and 95 % confidence intervals of teacher self-efficacy of inclusive practices in different major subject groups

| Major subject | Self-efficacy (Mean; SD) | 95% CI |
|--|-----------------------------|-----------|
| History and social sciences (n=39) | 4.26; 0.49 | 4.10–4.42 |
| General education (n=70) | 4.30; 0.57 | 4.17–4.44 |
| Early childhood education (n=95) | 4.37; 0.49 | 4.27–4.47 |
| Special education (n=140) | 4.43; 0.62 | 4.33–4.53 |
| Language (n=72) | 4.47; 0.51 | 4.35–4.59 |
| Science and math (n=31) | 4.58; 0.50 | 4.40–4.76 |
| Art, music and physical education (n=37) | 4.71; 0.52 | 4.53–4.88 |
| Rehabilitation and educational technology (n=29) | 4.77; 0.34 | 4.64–4.90 |

Note. Judgments of teacher self-efficacy were made on a 6-point scale (1 = strongly disagree, 6 = strongly agree)

Discussion

The first aim of this study was to investigate the structure of teacher self-efficacy of inclusive practices. Confirmatory factor analysis provided support for the existence of the assumed three-factor structure and for the second order factor that was named as General teacher self-efficacy for inclusive practices. This result suggests that teachers' self-efficacy to

implement inclusive practices has a hierarchical structure and it can therefore be considered as both multi- and one-dimensional phenomenon.

The second aim of the current study was to examine the relationship between teacher self-efficacy for inclusive practices and attitudes toward inclusive education. The analysis showed a relatively strongly correlation between self-efficacy and attitudes. This result suggests that teachers who feel themselves more capable in teaching a classroom with diverse learners have less negative perceptions about inclusive education and vice versa.

The third aim was to investigate the relationship between participants' teacher self-efficacy and other variables related to inclusive education. The strongest correlation was found between self-efficacy and self-confidence in teaching students with disabilities. This finding seems to be rather expected since this variable is close to the focus of the TEIP scale. An analysis of variance comparing the self-efficacy of students with different major subjects revealed that art, music, and physical education majors, along with rehabilitation and education technology majors, had the highest inclusive education teacher self-efficacy; whereas education, pre-school education, special education and history, and social sciences majors scored lowest in this respect.

The finding that teacher self-efficacy is a multidimensional construct is similar to several earlier studies investigating the structure of teacher self-efficacy (Chan, 2008; Ho & Hau, 2004; Klassen et al., 2009; Skaalvik & Skaalvik, 2010; Tschannen-Moran & Woolfolk Hoy, 2001). What makes the current study different from most of the previous investigations is that the data was obtained by using an instrument with an emphasis on inclusive education. Many of the required competencies of teachers working in inclusive settings are similar to those necessary in less inclusive contexts. However, the successful implementation of inclusive education

requires special emphases on certain sub-areas of teacher efficacy, such as collaboration with colleagues, parents, and other actors inside and outside of schools (Booth & Ainscow, 2002). In the current study, this requirement was reflected by the extraction of a distinct factor focusing on co-operation.

Based on the findings of the current, as well as earlier studies (Meijer & Foster, 1988; Soodak & Podell, 1993; Soodak, 1998; Malinen et al., 2012; Zan et al., 2011), it seems that a stronger sense of self-efficacy is connected to more positive attitudes toward inclusive education. We can expect that pre-service and in-service teachers feel empowered to work more effectively in inclusive classes and perceive inclusion more positively. At the same time, it must be emphasized that simply exposing teachers to inclusive classrooms with no additional support may be counterproductive. Negative experiences will both lower the level of self-efficacy and produce negative attitudes (Bizer, Barden, & Petty, 2003).

In this study, the participants majoring in special education, education, and early-childhood education were among the least self-efficacious in the area of inclusive education. This finding provides support to the Bandura's (2012) idea that an ambiguity about the requirements of the task at hand, may result in unrealistically high efficacy beliefs. Therefore more training and knowledge about an issue such as inclusive education does not necessarily lead to heightened teacher self-efficacy. It is possible that students of other subjects do not have inclusive education as a core content of they studies. For that reason they may not have been involved in, what Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) call, an analysis of the teaching task. According to them, analysis of the teaching task refers to the process of assessing what will be required in the anticipated teaching situation. Perhaps participants majoring in other subjects than special education, education, and early-childhood education have not yet considered how

demanding it is for a teacher to deal with a diverse group of learners in Chinese schools that often possess very limited resources. Possibly, only after graduating and entering the teaching profession do they start to develop the need for such analysis.

Studying the teacher self-efficacy with a sample of student teachers has some obvious limitations. The efficacy beliefs of pre-service teachers, with little practical teaching experience, may not have a solid foundation. Nevertheless, it is important to study student teachers self-efficacy already during their training. As Tschannen-Moran, Woolfolk Hoy and Hoy (1998) point out, the efficacy beliefs of pre-service teachers seem to be more malleable compared to experienced teachers. In pre-service stage there is more room for teacher training maneuvers that effectively increase the level of self-efficacy. Once efficacy beliefs have been established, they appear to be resistant to change and remain quite stable, even when the teachers are exposed to new training.

It is important to bear in mind that a high level of self-efficacy is not always desirable, especially for pre-service teachers with only limited teaching experience (Lancaster & Bain, 2010). High self-efficacy can sometimes be an indicator of inflated expectations of competence and an underestimation of the difficulty of teaching. Thus, pre-service teachers should undergo training that assists them to develop realistic efficacy expectations that really reflect their knowledge and skills.

If we follow the Bandura's theory of self-efficacy, the teacher training for inclusive education should make use of all the four sources of self-efficacy. Mastery experiences are assumed to be the strongest source of efficacy evaluations. Therefore it is imperative that pre-service teachers are provided enough mastery experiences from teaching diverse group of learners. Traditionally this has not been the case in China, where pre-service teachers have typically had

practicum only for six to eight weeks in the second to the last semester or the last semester of their studies (Han, 2012). Hopefully this situation is going to change. The new Ministry of Education (2011) *National Curriculum Standards for Teacher Education*, that were published after the data collection for this study, require teacher candidates to gain at least 18 weeks of practical schools experience during in their studies. It would be important that the future pre-service teachers could spend at least part of these 18 weeks in inclusive classrooms.

In addition to mastery experiences, student teachers should be given opportunities to observe people similar to themselves managing inclusive settings successfully. Furthermore, they need verbal encouragement that they have the capabilities to succeed in the context of inclusive education. Finally, prospective educators should be guided to interpret positively and constructively their emotions and somatic states, aroused by the obviously stressful and exciting moment of entering the inclusive classroom.

In China, the expansion of the inclusion movement during the last few decades has been rapid. At least at the levels of legislation, policies, and statements, the government appears to be committed to the principles of inclusion. Regular classrooms are widely seen as the only viable option for educating most of the millions of students with disabilities. The majority of in-school special education students is already studying in regular schools or attached special classes (Xiao, 2007). In the future, perhaps the biggest question is how to maintain an adequate quality of education in inclusive classrooms. Currently many inclusive classrooms in China have and practically no additional resources to ensure the student with disabilities' learning and participation. This has led some teachers to rename the Chinese inclusive education policy from the official *suībān jiùdú* (*learning in regular classrooms*) into *suībān jùzuò* (*sitting in regular classroom*).

Limitations of the study should be noted. First, the data was collected from 550 non-randomly selected participants from three teacher education institutions. This cannot be considered as a representative sample of the total population of Chinese pre-service teachers. Second, the three factors of teacher self-efficacy for inclusive practices may not fully reflect the complexity of such self-efficacy and future research may be able to extract additional factors contributing to teachers' sense of efficacy related to inclusive education. Third, the current study was not a longitudinal one. Based on current data, one cannot tell how teacher self-efficacy would develop during university studies or after graduation. Finally, using pre-service teachers as a sample may be a limitation in studying teacher self-efficacy as their knowledge and skills of practical classroom work is very limited. This is particularly true in China where pre-service teachers have been rarely required to take teaching practicum before the final year of their studies (Han, 2012).

There are already articles dealing with the structure of teacher efficacy and self-efficacy. Nevertheless, very few of these studies have been conducted in mainland China or have had an emphasis on inclusive education. In China most of the investigations have concentrated on identifying factors affecting teacher efficacy. In this respect, the current study provides information for constructing a more solid foundation for teacher self-efficacy research. Inclusive education in particular, is an arena where an international agenda meets local realities. This means that there is a great demand for this type research that investigates inclusive education from teachers' perspective in non-western geographical and cultural contexts.

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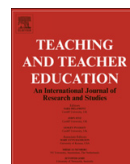
ARTICLE IV

**EXPLORING TEACHER SELF-EFFICACY FOR INCLUSIVE PRACTICES IN
THREE DIVERSE COUNTRIES**

By Olli-Pekka Malinen, Hannu Savolainen, Petra Engelbrecht, Jiacheng Xu, Mirna Nel,
Norma Nel and Dan Tlale, 2013

Teaching and Teacher Education

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Exploring teacher self-efficacy for inclusive practices in three diverse countries

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HIGHLIGHTS

- Structural equation models that explain teacher self-efficacy (TSE).
- Experience in teaching students with disabilities was the strongest predictor of TSE.
- The other explanatory factors of TSE varied from country to country.

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ABSTRACT

The purpose of this study was to explain teachers' perceived efficacy for teaching in inclusive classrooms by using a sample of 1911 in-service teachers from China, Finland, and South Africa. Bandura's theory of self-efficacy was used as a starting point to develop distinct models for each country. We found that in all countries, experience in teaching students with disabilities was the strongest predictor of self-efficacy, while the predictive power of other variables differed from country to country. Our findings illustrate ways to improve teacher education to respond better to the challenges set by the global inclusive education movement.

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1. Introduction

The Inclusion of students with diverse educational needs into the mainstream is now one of the core global issues of education policy and planning (UNESCO, 2007). According to Kozleski, Artiles, Fletcher, and Engelbrecht (2009), the basic premise of inclusive education is that schools are about belonging, nurturing, and educating all students regardless of their differences in ability, culture, gender, language, class, and ethnicity. Schools and teachers therefore need to commit to the transformation of their school communities for the implementation of inclusive education to be successful.

In this study, the term *inclusive practices* refers for example to modifying the instruction and assessment according to students' needs, preventing and controlling disruptive student behaviour, and collaborating with parents and involving them in the school activities of their children. Notably, there is often nothing particularly special in these and other *inclusive practices* as they appear to be part of any good teaching. This general education nature of effective special educational interventions was earlier shown in a meta study of Forness (2001) and similar view is evident in more recent Mitchell's (2008) meta-analysis of over 2000 research articles on teaching students with special educational needs (SEN) at the primary and secondary school levels. His analysis shows that the majority of the most effective teaching methods are strategies that can well be applied in general education too.

With this background in mind, it is not that surprising that several influential reports and policy recommendation documents suggest that promoting inclusive practices in schools may also

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contribute to the learning outcomes of the entire school system. One main conclusion of the 2007 McKinsey report on the world's best performing school systems (Barber & Mourshed, 2007) was that the top educational systems try to ensure the best possible instruction for every child. In addition, the Program for International Student Assessment report by the Organisation for Economic Co-operation and Development (OECD, 2011) highlights that many top performing schooling systems have also done well in including and educating potentially marginalised groups of students: for example, Finland has an extensive learning support system that is part of the mainstream education; Canada has systems in place for dealing with immigrant children; and in schools in Shanghai, China, have been rather successful in including migrant children coming from rural areas to the system.

While there is universality regarding the view that inclusive education is a fundamental way of realising quality education for all, there are clear differences in national educational policies. The international debate on the implementation of inclusive education and the development of inclusive schools has not fully considered how these policies, contexts, and cultures interact in the implementation of inclusive education within and across different countries (Kozleski et al., 2009). This necessitated an analysis that would shed light on the question of why, in spite of the official definitions of inclusion found in national policies, there is still only multiple and partial understanding of the inclusive education agenda within diverse contexts (Artiles & Dyson, 2005; Singh, 2009). Such an analysis can enable researchers to develop a deeper understanding of variations and similarities in the development of inclusive education while still acknowledging the role that unique cultural–historical contexts can play in this regard. This can lead to improved cross-cultural dialogue, as well as the promotion of new forms of partnerships and new modalities in the development of teacher education programmes on inclusive education (Crossley & Watson, 2003).

The development of inclusive education in mainland China, Finland, and South Africa, for example, has been influenced by international inclusion campaigns, such as the 1990 World Declaration on Education for All (UNESCO, 1990) and the 1994 Salamanca Statement (UNESCO, 1994) (Deng, 2009; Liu & Jiang, 2008; MOE, 2007, p. 11; Walton, 2011). Yet, due to their own unique historical, cultural, and social contexts, these countries have adopted rather dissimilar approaches to the implementation of inclusive education. The mainland Chinese model of inclusive education is often described with the following slogan: Special education schools as backbone, learning in regular classrooms and special classes as main body (CPG, 2011; Yang, 2011). Therefore, in China, the current aim is to educate the majority of children with special educational needs in regular schools while the special education schools are maintained as centres of expertise for supporting the work of regular schools and providing education for students with more profound special educational needs. To implement this dual strategy for dealing with SEN students, the Chinese government aims to not only develop inclusive mainstream education but also have at least one special school built in every town of more than 300 000 residents by 2020 (CPG, 2010).

In South Africa, legislation and policies concerning inclusive education have been formulated in the post-apartheid era. As a result, there has been a strong emphasis on equality and human rights issues in the country's constitution and the subsequent development of inclusive education (Engelbrecht, 2011; Walton, 2011). On the other hand, the move towards inclusive education has not often involved adequate support and training for the teachers, which has caused negative attitude and opposition to the implementation of inclusive education among South African teachers (Engelbrecht, 2006; Walton, 2011; Walton, Nel, Hugo, & Muller, 2009).

The Finnish approach to inclusive education can be described as pragmatic. To adopt, or not to adopt an inclusive approach to education, is often seen primarily as a pedagogical issue, and the human rights rhetoric in a long-established democratic society such as Finland is quite seldom used in Finnish discussions on inclusive education (Jahnukainen, 2011; Malinen & Savolainen, 2012). Another feature of the Finnish school system is the large proportion of special education teachers in all schools. These specialized teachers have had the main responsibility of running the extensive learning support services, which has led many mainstream educators to believe that teaching students identified as having special needs can only be done by teachers specifically trained for that purpose (Malinen, Väisänen, & Savolainen, 2012).

1.1. Teacher self-efficacy

The global move towards more inclusive education has had implications for the research on teacher self-efficacy, and there is a growing body of research on teacher efficacy for inclusive education (e.g. Almog & Shechtman, 2007; Leyser, Zeiger, & Romi, 2011; Malinen, Savolainen, & Xu, 2012; Romi & Leyser, 2006; Soodak, Podell, & Lehman, 1998). The research questions of these studies have often dealt with issues such as the correlation between teachers' self-efficacy and their coping with behavioural problems or the effect of teacher self-efficacy on attitudes towards inclusive education.

The concept of self-efficacy was established by Bandura (1977) who has defined it as a judgement of the capability to execute a given type of performance (Bandura, 2006b). Self-efficacy is grounded in the social cognitive theory, which claims that people are able to exercise some control over their self-development and life circumstances even though many things depend at least partly on chance (Bandura, 2006a). In recent decades, teachers' efficacy beliefs have gained popularity as a topic of self-efficacy research, and Klassen, Tze, Betts, and Gordon (2011) report a strong increase in the quantity of teacher self-efficacy research published between the years 1986 and 2009. One potential reason behind the popularity of teacher self-efficacy research may be its cyclical nature: stronger self-efficacy beliefs are believed to result in greater efforts by teachers, which in turn leads to better performances, which again provides information for forming higher efficacy evaluations (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998).

Tschannen-Moran and Woolfolk Hoy (2007) remind researchers that teacher efficacy is context-specific. Teachers may feel efficacious about teaching certain subjects to certain students in certain settings, while perceiving themselves as less efficacious under different circumstances. The context-specific nature of teacher efficacy also makes it worthwhile to test the theoretical assumptions underlying self-efficacy in diverse cultural contexts and to use domain-specific research instruments that emphasise areas such as teaching science, teaching with technology, or like in the current study, teaching in inclusive settings (Klassen et al., 2011).

Research findings across various cultural contexts seem to indicate that teacher self-efficacy is a multidimensional construct. In different studies, teacher self-efficacy dimensions have often been related to instruction, classroom management, motivating and engaging students, and more recently, cooperating with colleagues and parents. The number of dimensions found has usually varied from three to six, possibly depending on the measurement instrument and the focus of the research (Chan, 2008a, 2008b; Klassen et al., 2009; Malinen, Savolainen, et al., 2012; Romi & Leyser, 2006; Skaalvik & Skaalvik, 2007, 2010; Tschannen-Moran & Woolfolk Hoy, 2001, 2007).

1.2. Sources of teacher self-efficacy

Theoretically, self-efficacy is constructed from four main sources: mastery experiences, vicarious experiences, social persuasion, and somatic and emotional states (Bandura, 1977; Tschannen-Moran & Woolfolk Hoy, 2007). Vicarious experiences are gained when people observe someone else performing a certain task such as teaching in an inclusive classroom. Verbal persuasion is defined as interactions in which a teacher receives verbal comments about his or her capabilities to master given tasks. Somatic and emotional states have to do with the sense of anxiety or of excitement that can be interpreted as a sign of competence or incapability to master given activities. Any given influence that a person encounters may operate through one or more of the four sources of efficacy information. However, merely receiving information from these sources is not adequate for transforming efficacy beliefs. The information from different sources affects perceived self-efficacy only when it involves cognitive processing and reflective thinking (Bandura, 1997, p. 79).

From the four sources of self-efficacy, mastery experiences are commonly seen as the most powerful since they provide the most authentic evidence of whether one can do what it takes to succeed. Nevertheless, if people experience only easy success they may come to expect quick results and become quickly discouraged when they encounter difficulties. Gaining resilient self-efficacy beliefs requires people to experience and overcome obstacles though perseverant effort (Bandura, 1994, 1997, p. 80, 2012; Tschannen-Moran & Woolfolk Hoy, 2007).

It has been assumed that vicarious experiences, social persuasion, and somatic and emotional states would have a stronger impact on teacher self-efficacy of novice teachers who have little mastery experiences, while for experienced teachers, who have gained more mastery experiences, the other sources play a more minor role (Tschannen-Moran & Woolfolk Hoy, 2007). Experienced teachers' efficacy beliefs also appear to be quite resilient to change even when the teachers are exposed to new training (Tschannen-Moran et al., 1998). This assumption has gained support from Ross and Bruce (2007), who conducted a randomized study in which a professional development program had only a small positive effect in one teacher efficacy dimension, namely, classroom management, and no significant difference was observed between the treatment and control group in other dimensions, which were efficacy in engaging students and efficacy in using instructional strategies.

One obvious gap in the existing teacher efficacy literature according to Klassen et al. (2011) is the lack of quantitative, cross-national investigations on the sources of teacher self-efficacy. Klassen and others reviewed 218 studies about teacher efficacy from 1998 to 2009 and found only seven empirical studies investigating the sources of teacher efficacy. In addition, many of these studies were small qualitatively oriented case studies, so their results cannot be generalized to the wider teacher population. Their conclusion is that quantitatively oriented research on the sources of teacher efficacy is crucial for the advancement and practical usefulness of the field of teacher efficacy research. Furthermore, the number of cross-cultural investigations of teacher self-efficacy is currently very limited; for example, among the over 200 articles that Klassen and others reviewed, less than 3% included participants from multiple countries. Against this background, the current study, which investigates the role of different sources in forming teachers' self-efficacy beliefs by using large quantitative datasets from three continents, makes a considerable effort to fill the gap in the existing research literature. Even though countries are very different, investigating teacher self-efficacy can provide answers on how to implement inclusive education in very dissimilar contexts.

1.3. Rationale for choosing the sample countries

The current study aims to investigate and explain teacher self-efficacy for inclusive practices by using data collected from three diverse countries, China, Finland, and South Africa. These countries were chosen since they differ considerably in terms of history, culture, size, and the approaches they have adopted to inclusive education, and thus it is reasonable to expect some variation between the results from these three locations. As already mentioned, teacher self-efficacy is context dependent, and it is likely that different educational systems also pose dissimilar requirements for the work of teachers. Furthermore, as mentioned in the Introduction, cross-cultural studies such as this are able to highlight some features that seem remarkably similar across very different educational environments. Therefore, this study intends to add to existing research literature by collecting and analysing cross-cultural data to illustrate the interaction between the context and efficacy beliefs and to find ways to improve teacher education to respond better to the challenges set by the global inclusive education movement.

1.4. Research aims

The current study had three aims:

1. To test how a hypothetical model in which three dimensions of teacher self-efficacy for inclusive practices (instruction, behaviour management, and collaboration) are explained by four independent variables that represent different sources of self-efficacy, fits the data collected from Chinese, Finnish, and South African in-service teachers.
2. To find out which teacher-related factors predict the self-efficacy of Chinese, Finnish, and South African teachers for inclusive practices.
3. To analyse what differences can be found in the Chinese, Finnish, and South African predictive models and to suggest potential interpretations for the variations.

2. Method

2.1. Data collection in China

The Chinese sample was drawn from the Beijing municipality, which is a metropolis with over 20 million inhabitants. The sample included 451 primary and middle school teachers working in 132 different schools with a few exceptions; the middle school teachers were teaching at the lower middle school level (grades 7–9). Even though no structured random sampling framework was implemented, the participants represent a rather varied sample of Beijing teachers (e.g. in terms of different districts and schools). Out of 14 urban and suburban districts and two rural counties of the Beijing municipality, only one district was not represented in the sample. In the sample, the proportion of special education school teachers was much bigger than the actual proportion of special education teachers in the total teacher population in Beijing municipality. Nonetheless, it was considered important to include a considerable number of special education school teachers in the sample. In the Chinese inclusive education system, special education schools are considered to play an important role. Moreover, this role is not likely to diminish considerably in the near future, as the central government encourages the establishment of new special education schools rather than to close down the existing ones (CPG, 2010).

Most Chinese participants were reached with the help of a group of teachers who participated in a weekly training session on teaching students with disabilities in regular classrooms. At the end of one session, each teacher was given approximately 10

questionnaires, which they then handed out to teachers in their respective districts and counties. A smaller proportion of participants were reached in district-level teacher training sessions, where one of the authors or his assistant handed out and collected the questionnaires. Due to the implementation of snowball sampling, the exact return rate of questionnaires in the Chinese sample could not be calculated, but over 90% of the questionnaires that were handed out were returned.

2.2. Data collection in Finland

The Finnish data was collected from 6 small- to medium-sized municipalities in the Eastern Finland region and from one big municipality in the South-West region in Finland. The schools include comprehensive schools, which comprise primary schools (grades 1–6), lower secondary comprehensive schools (grades 7–9), or unified comprehensive schools (grades 1–9). No special schools were included in the sample, but many of the participating schools have special classes for students defined as having special educational needs. All schools had part-time special education teachers among the staff, and they also responded to the questionnaire, as did the school principals. The sample schools represent the characteristics of Finnish schools well in terms of resources and educational programmes.

The Eastern Finland questionnaires ($n = 295$) were collected as a part of an on-going research and development project from all the schools participating in the study, and the South-Western city data ($n = 560$) were collected by the local education authority from all schools that agreed to participate. The exact return rate of the questionnaires (total $n = 855$) was not available, but can be estimated to be around 60%.

2.3. Data collection in South Africa

In the South African data collection, the method of convenience sampling was used, paying special attention to include schools from different socio-economic and cultural contexts and schools from various locations. As a result, one group of teachers ($n = 322$) was from the Vaal Triangle area, which consists of parts of the Gauteng Province as well as the Free State Province. In this region,

the sample schools were mainly primary and secondary mainstream schools with a diversity of learners. However, a few of these schools have separate special classes for learners who are cognitively mildly challenged. In addition, one special school for students with severe intellectual disabilities also took part in the study. In the Vaal Triangle area, the questionnaires were hand delivered to schools and to district cluster meetings, completed, and collected.

The second group of teachers ($n = 283$) in the sample resided throughout all the provinces in South Africa, teaching in primary schools, with the exception of a few who taught at special education schools. For this group, the questionnaires were posted to the teachers and an addressed envelope was included for returning the questionnaire. In South Africa, the total return rate of the questionnaires ($n = 605$) was 47.3%. The demographic characteristics of the South African as well as the Chinese and Finnish participants are summarised in Table 1.

2.4. Questionnaire

In the current study, teacher self-efficacy was measured using the *Teacher Self-Efficacy for Inclusive Practices* (TEIP) scale (Malinen, Savolainen, et al., 2012; Savolainen, Engelbrecht, Nel, & Malinen, 2012; Sharma, Loreman, & Forlin, 2012). The TEIP scale can be used to measure perceived teacher efficacy to teach in inclusive classrooms. The scale consists of 18 items that are rated on a 6-point Likert-type scale (1 = *strongly disagree*, 6 = *strongly agree*). Higher TEIP-scale scores indicate greater teacher self-efficacy.

Previous empirical results have indicated that the TEIP scale can be divided into three subscales that deal with efficacy in instruction, efficacy in managing behaviour, and efficacy in collaboration (Malinen, Savolainen, et al., 2012; Savolainen et al., 2012; Sharma et al., 2012). The items in the subscale that measures efficacy in instruction (e.g. *I am able to provide an alternate explanation or example when students are confused; I can provide appropriate challenges for very capable students*) deal mostly with self-efficacy in adapting teaching according to learners' needs.

The items in the subscale that measures efficacy in managing behaviour (e.g. *I am confident in my ability to prevent disruptive behaviour in the classroom before it occurs; I am able to calm a student who is disruptive or noisy*) deal primarily with perceived

Table 1
Demographics of the Chinese ($n = 451$), Finnish ($n = 855$) and South African sample ($n = 605$).

| | | China | Finland | South Africa |
|--|--|-------------|-------------|--------------|
| Gender (% female) | | 86.9 | 78.3 | 82.5 |
| Age (mean, std) | | 33.5 (6.32) | 44.5 (9.07) | 44.2 (8.92) |
| Special education teachers (%) | | 25.7 | 14.6 | 14.4 |
| Level of highest attained professional qualification (%) | Master's degree | 4.2 | 82.4 | 1.4 |
| | BA or equivalent | 95.5 | 14.9 | 24.7 |
| | Teacher diploma | | 2.3 | 58.6 |
| | Secondary school or equivalent | 0.2 | 0.3 | 2.5 |
| | Other | | | 12.7 |
| Teaching years (mean, std) | | 12.8 (7.21) | 17.0 (9.40) | 16.4 (10.03) |
| Experience in teaching students with disabilities (%) | None | 12.6 | 6.9 | 12.9 |
| | Very little | 45.7 | 28.4 | 25.8 |
| | Medium | 33.0 | 33.0 | 40.9 |
| | Quite a lot | 6.2 | 17.2 | 13.1 |
| | Considerable | 0.4 | 10.3 | 5.5 |
| Considerable interactions with persons with disabilities (%) | Missing | 2.0 | 4.1 | 1.8 |
| | Yes | 80.0 | 51.8 | 48.3 |
| | No | 19.5 | 44.8 | 45.0 |
| | Missing | 0.4 | 3.3 | 5.8 |
| | Amount of inclusive education training | | | |
| | None | 37.0 | 37.3 | 38.9 |
| | Little | 30.4 | 27.0 | 22.7 |
| | Somewhat | 22.4 | 23.4 | 16.6 |
| | Much | 7.5 | 8.3 | 10.1 |
| | Great deal | 1.8 | 4.0 | 4.1 |
| | Missing | 0.9 | 2.9 | 7.6 |

capability to prevent and handle unwanted student behaviour. It is important to notice that only one item in the instruction and managing behaviour subscales refers particularly to teaching students with disabilities. The other items in these two subscales represent practices that could be part of any general measure of teacher self-efficacy. This is because many inclusive teaching practices are very general methods that are effective in teaching well all students, in varying educational settings (Mitchell, 2008). From the three TEIP scale subscales, efficacy in collaboration is most closely linked to student with disabilities. The most items in this subscale (e.g. I am confident in my ability to get parents involved in school activities of their children with disabilities; I can collaborate with other professionals (e.g. itinerant teachers or speech pathologists) in designing educational plans for students with disabilities.) require respondents to evaluate their efficacy to collaborate with parents, colleagues and other professionals in teaching students with disabilities.

In the current study, in all three countries, the TEIP scale scores had high alpha coefficient reliability, ranging between 0.90 and 0.91. The alpha coefficients for the sub-scales were 0.75–0.77 for efficacy in instruction, 0.83–0.87 for efficacy in collaboration, and 0.85–0.88 for efficacy in managing behaviour.

Besides the TEIP scale, the participants were asked for demographic information. The questionnaire also contained a cover letter that informed them about the purpose of the study, and explained that the data would be treated confidentially and used for research purposes. The participants had the option of declining participation by not accepting the questionnaire, not returning the questionnaire, or leaving parts of the questionnaire incomplete.

The Chinese, Finnish, and South African questionnaires were all originally formulated in English. The final versions were then translated to the corresponding local languages (Chinese, Finnish, and Afrikaans). The Finnish and Afrikaans translations were done by the researchers, and the Chinese translation by a professional translator under intense supervision of one of the researchers who is fluent in both English and Mandarin. The translated versions of the scales were analysed for linguistic and cultural appropriateness by authorized language translators, and corrections were agreed upon between the researchers and the language expert to guarantee maximum similarity with the original English language items. After translation, the questionnaires were piloted in the respective countries.

The Chinese questionnaire was first piloted with 10 native Chinese nationals with educational sciences backgrounds and a good command of the English language. Some of these reviewers also had experience working as teachers in Chinese schools. After this, the questionnaire was tested with 552 pre-service teachers from three Chinese teacher-training institutions. In Finland, the questionnaire was pilot tested with about 20 teachers from mainstream schools, and in South Africa, the pilot questionnaire was tested with 22 mainstream teachers who spoke either Afrikaans or English.

After the pilot testing, certain modifications were made to all three questionnaires with regard to either the wording of some questions or the order of some questions about respondent background information.

2.5. Analysis strategy

The data were analysed with the SPSS Statistics 19.0 and Mplus 6.11 software. In the structural equation modelling, the standard MAR approach (*missing at random*) was applied (Muthén & Muthén, 1998–2010) to guarantee maximum use of available data. Because some variables in the Chinese and Finnish TEIP scale data were slightly skewed, the parameters of the confirmatory factor analysis

and the structural equation model were estimated using full-information maximum likelihood estimation (MLR estimator), which is, robust to non-normality and non-independence of observations (Muthén & Muthén, 1998–2010). In the case of South Africa, the skewness of the TEIP scale items was stronger than that in the two other countries. To increase the normality of the distribution, a logarithmic transformation was done for the South African TEIP scale data, and further analysis of the South African data was carried out with these transformed variables.

The data analysis consisted of three phases. The first phase was to conduct a confirmatory factor analysis for the structure of teacher self-efficacy for inclusive practices in each country and modify the model if needed. The second phase was to test and modify the hypothetical model for explaining teacher self-efficacy for inclusive practices. The hypothetical model contained four independent variables: level of experience in teaching students with disabilities (ranging from 1 (none) to 5 (very high)), teaching experience (years), considerable interactions with persons with disabilities (0 = no, 1 = yes), and amount of training related to inclusive education (ranging from 1 (none) to 5 (a great deal)). Only the independent variables that could significantly predict teacher self-efficacy were left in the model. The third phase was to add three covariates to the model, one by one. This was done to control for the effect of age (years), gender (0 = female, 1 = male), and teacher type (0 = mainstream teacher, 1 = special education teacher) to the models. The end results of three phases were final models explaining teacher self-efficacy for inclusive practices in the three sample countries.

The hypothetical model for explaining teacher self-efficacy for inclusive practices that is presented in Fig. 1 was built on the foundation of Bandura's (1977, 1994) theory of self-efficacy. As already mentioned, self-efficacy is constructed from four main sources: mastery experiences, vicarious experiences, verbal persuasion, and emotional and somatic arousal. In an earlier section of this paper, we have also described that among experienced teachers, such as the participants of this study, mastery experiences are assumed to be the strongest source of efficacy information. Therefore, it was considered important for the hypothetical model to include several independent variables that were assumed to reflect participants' previous experiences.

In the hypothetical model, mastery experiences were represented by participants' teaching experience, experience in teaching students with disabilities, and interactions with persons with disabilities. It was assumed that longer experience in the teaching profession, extensive experience in teaching students with disabilities, and previous exchanges would increase the probability of gaining more mastery experiences for building a stronger sense of teacher efficacy.

Vicarious experiences were represented by the amount of training the participants had received about inclusive education. It was hypothesised that more training would offer more possibilities to observe and model successful inclusive teaching, which would increase the participants' own level of teacher self-efficacy for inclusive teaching. The amount of training related to inclusive education was also assumed to represent verbal persuasion, since it is quite likely that during such training the teachers would have been encouraged to believe in their abilities in inclusive teaching. The fourth source of self-efficacy, emotional and somatic arousal, was seen as the most challenging to capture using the independent variables available in all three country datasets. Even though it is possible that all four independent variables in the hypothetical model are associated with certain emotional and somatic states, it is very difficult to estimate how strongly these emotions and sensations would be represented by different variables. Therefore, in the discussion of the results, we do not pay much attention to the

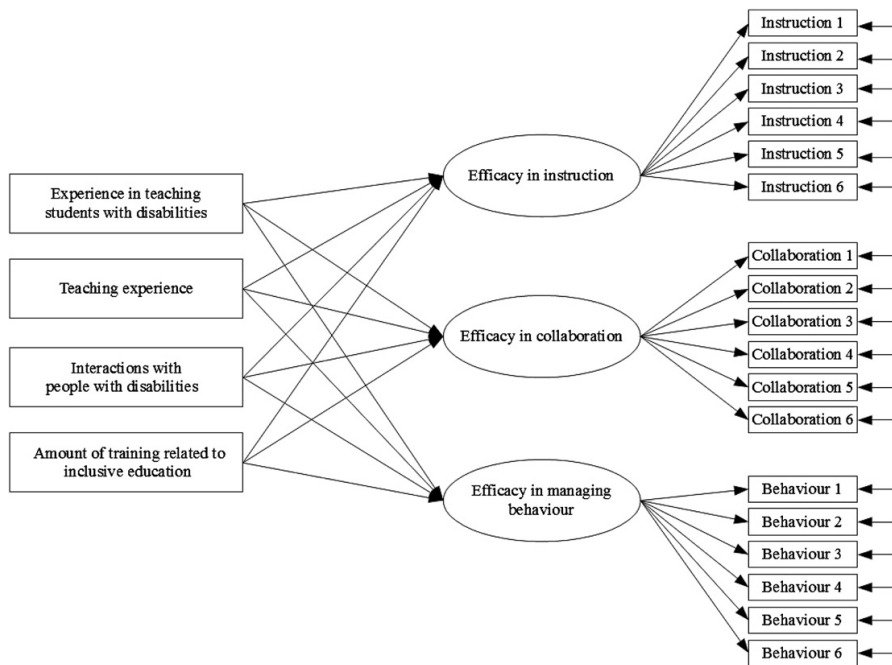


Fig. 1. Hypothetical model for explaining teacher self-efficacy for inclusive practices.

role of emotional and somatic arousal in forming teachers' self-efficacy beliefs in Finland, China, or South Africa.

To assess the goodness of fit of the models, the well-known indices CFI, TLI, RMSEA, and SRMR, and a chi-square test were used. For the CFI and TLI indices, values greater than 0.90 indicate acceptable fit to the data, and values greater than 0.95 are considered to reflect good fit to the data (Hu & Bentler, 1999). RMSEA values smaller than 0.08 and SRMR values smaller than 0.06 indicate good fit (Hu & Bentler, 1999).

3. Results

3.1. The Chinese model

Confirmatory factor analysis conducted for the TEIP scale variables confirmed the anticipated three-factor structure of teacher self-efficacy in the Chinese data, and the model had an acceptable fit to the data ($\chi^2(101, N = 437) = 271.99$, CFI = 0.92, TLI = 0.91, RMSEA = 0.06, and SRMR = 0.06). The standardised factor loadings were from 0.437 to 0.688 for efficacy in instruction, from 0.687 to 0.842 for efficacy in collaboration, and between 0.619 and 0.884 for efficacy in managing behaviour. Two TEIP scale items, *I can assist families in helping their children do well in school* and *I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated*, which seemed to load on all three factors, were left out of the model.

The testing of the hypothetical predictive model of teacher self-efficacy revealed that experience in teaching students with disabilities explained significantly participants' efficacy in instruction and their efficacy in collaboration. In addition, teaching experience explained efficacy in managing student behaviour. The paths from the other variables were non-significant and were left out of the model. Next, the covariates age, gender, and teacher type were

added one by one into the model. Only two significant paths from the covariates to the self-efficacy factors were left in the model. Special education teachers considered themselves more efficacious in collaboration, while the mainstream teachers felt they were more efficient in managing student behaviour than their colleagues in special education.

Two correlations between residuals of the variables that loaded on the same self-efficacy factor were set free, and the path from experience in teaching students with disabilities to instruction factor was removed, as it had become non-significant after adding the covariates into the model. The final model (see Fig. 2) had an acceptable fit to the data ($\chi^2(142, N = 416) = 325.46$, CFI = 0.93, TLI = 0.91, RMSEA = 0.06, SRMR = 0.07). The prediction level (R^2) of the model was 0.13 for efficacy in collaboration and 0.06 for efficacy in managing behaviour.

3.2. The Finnish model

Confirmatory factor analysis confirmed that the expected factor structure had an acceptable fit ($\chi^2(120, N = 867) = 456.47$, CFI = 0.92, TLI = 0.90, RMSEA = 0.06, and SRMR = 0.05) in the Finnish sample. The standardised factor loadings were 0.513–0.694 for efficacy in instruction, 0.652–0.747 for efficacy in collaboration, and 0.568–0.912 for efficacy in managing behaviour. Two items, *I can make my expectations clear about student behaviour* and *I am confident in informing others who know little about laws and policies relating to the inclusion of students with disabilities*, which had strong loading on more than just one factor, were not included in the model.

The testing of the hypothetical predictive model showed that in the Finnish sample, only experience in teaching students with disabilities and the amount of training related to inclusive education explained significantly all self-efficacy factors. Participants'

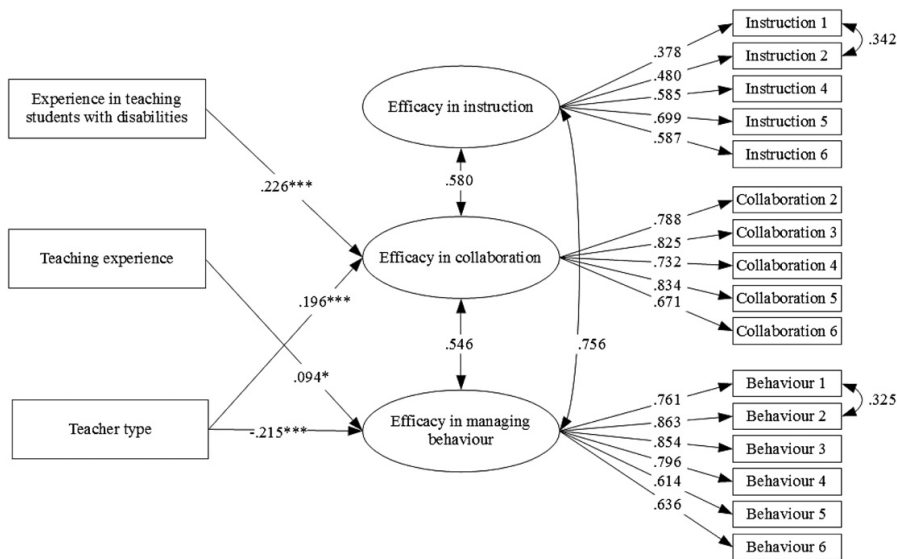


Fig. 2. Chinese ($N = 437$) model for explaining teacher self-efficacy for inclusive practices.

teaching experience or previous interactions with persons with disabilities did not have a significant effect on any factor; thus, they were left out from the successive models.

Adding the covariates resulted in only one change in the Finnish model, as a significant path from gender to efficacy in managing behaviour was added. This indicated that the male teachers rated higher their capability to prevent and manage undesirable student behaviour. To finalize the Finnish model, several residuals of the observed variables that loaded on the same factor were allowed to correlate, and the final model had an acceptable fit to the data (χ^2

(137, $N = 776$) = 507.00, CFI = 0.92, TLI = 0.90, RMSEA = 0.06, SRMR = 0.05). The prediction level (R^2) of the model was 0.19 for efficacy in instruction, 0.19 for efficacy in collaboration, and 0.13 for efficacy in managing behaviour. The final Finnish model is shown in Fig. 3.

3.3. The South African model

In the South African data, the anticipated three-factor model of self-efficacy had an acceptable fit to the data (χ^2 (116,

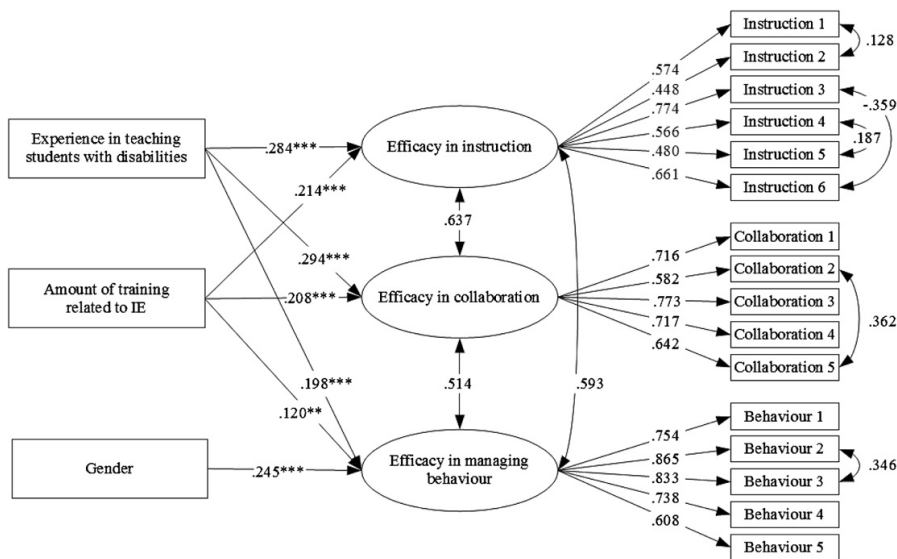


Fig. 3. Finnish ($N = 867$) model for explaining teacher self-efficacy for inclusive practices.

$N = 590$) = 325.26, CFI = 0.94, TLI = 0.93, RMSEA = 0.06, and SRMR = 0.05). The standardised factor loadings were 0.518–0.721 for efficacy in instruction; 0.687–0.775 for efficacy in collaboration; and 0.607–0.868 for efficacy in managing behaviour. One item, I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated, loaded on all three factors and was left out of the model.

From the hypothetical model, experience in teaching students with disabilities as well as previous interactions with persons with disabilities explained significantly all the self-efficacy factors in the South African sample. The other two variables were left out from the later models.

The only covariate that had significant effect on self-efficacy factors was age, which predicted positively participants' efficacy in managing behaviour, indicating that older respondents on an average relied more on their ability to get students to follow school rules. The last modification of the South African model was to set free two correlations between the residuals of the variables that loaded on the same factor. The final South African model that is presented in Fig. 4 showed good fit to the data (χ^2 (158, $N = 545$) = 344.16, CFI = 0.95, TLI = 0.94, RMSEA = 0.05, SRMR = 0.05). The prediction level (R^2) of the model was 0.09 for efficacy in instruction, 0.27 for efficacy in collaboration, and 0.06 for efficacy in managing behaviour.

4. Discussion

The first aim of the present study was to test a hypothetical model for explaining teacher self-efficacy for inclusive practices among mainland Chinese, Finnish, and South African in-service teachers. This model contained three self-efficacy dimensions—efficacy in instruction, efficacy in managing behaviour efficacy in collaboration, and—which were explained by the four variables representing potential sources of self-efficacy. The hypothetical model was tested and further modified separately for each country. The result of these modifications was three separate country-based models for explaining self-efficacy.

4.1. Common features of the Chinese, Finnish, and South African models

The clearest commonality among the final Chinese, Finnish, and South African models is that experience in teaching students with disabilities explained teachers' efficacy evaluations in all countries, and it also had the strongest explanatory power among the included variables in each location. The importance of this finding was further highlighted by the result that the effect of teaching experience held, even when the effect of teacher type (regular or special education teachers) was controlled for. Thus, having experience in teaching students with disabilities beyond special education seems to be important. This cross-culturally shared finding is well in unison with the theory of self-efficacy (Bandura, 1977, 1994), in which mastery experiences are assumed to be the strongest source of efficacy evaluations. It is quite natural that actually teaching students with disabilities is one of the most straightforward methods of gaining these experiences of successful inclusive teaching. What is more, the self-efficacy theory assumes mastery of experiences to be a particularly important source of efficacy evaluations for the experienced teachers. This view gained support also from our current data, which consisted of rather experienced educators with an average of 12.8 (China) to 17.0 (Finland) years of experience in the teaching profession. In China, Finland, as well as in South Africa, the model explained best the variance in the collaboration dimension of self-efficacy. Interestingly, previous findings have also emphasised the role of teachers' ability to collaborate. Malinen, Savolainen, et al., 2012 as well as Savolainen et al. (2012) found that efficacy in collaboration was a relatively strong predictor of teachers' attitudes towards inclusive education, while the other dimensions of self-efficacy did not have such an effect. Many recent policy recommendation documents such as the McKinsey report also emphasise collaboration among teachers as an effective tool for improving schools and schools systems (Mourshed, Chijioke, & Barber, 2010, p. 77). In addition, the OECD (2011, p. 88) has reported that teachers' collaborative planning of teaching activities and learning from each other is an important

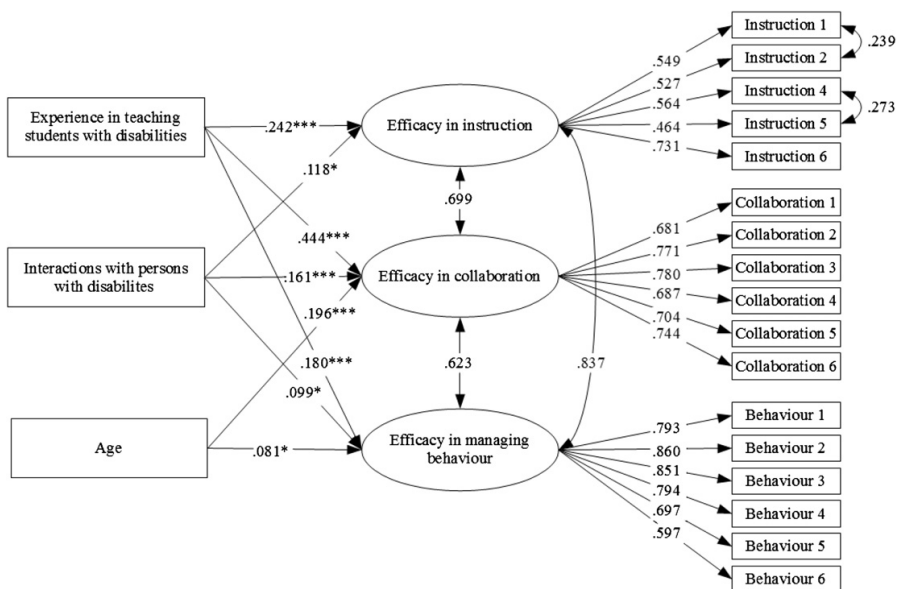


Fig. 4. South African ($N = 590$) model for explaining teacher self-efficacy for inclusive practices.

factor, for example, behind the Shanghai students' top performance in the PISA assessment.

4.2. Unique characteristics of the Chinese model

Each country model of explaining teacher self-efficacy for inclusive practices had some unique features, not found in the other countries. One of the biggest differences between the final Chinese model and other country models was that the teacher type (mainstream or special education teacher) explained significantly both efficacy in collaboration and efficacy in managing behaviour. Interestingly, the connection between teacher type and collaboration dimension was positive, which suggested stronger ability to cooperate among special education teachers; in managing behaviour, the situation was opposite, i.e. mainstream teachers felt more competent in dealing with students' behaviour problems.

One potential factor causing the Chinese special education teachers' lower efficacy in managing behaviour is the difference that commonly exists between the school context and student populations that special and mainstream educators need to deal with. In China, special education teachers work mainly in schools teaching students with profound disabilities, while the mainstream education teachers usually teach a class of students who usually follow the rules and the teachers' instruction. It is quite natural to expect that a special education teacher who works, for example, with students with severe autism spectrum disorders who have difficulties in social interaction and communication, would feel less competent in managing her class, compared to a mainstream education colleague who seldom encounters any major behaviour issues in her work.

The same school context factors that we assume to be behind the difference between the behaviour management efficacy of Chinese mainstream and special educators are probably a reason behind special education teachers' higher self-efficacy in collaboration. The variables that formed the collaboration factor were more closely linked to student with disabilities than the variables in other two factors of teacher self-efficacy. One can expect most special education school teachers to have much more opportunities and need to cooperate more with parents, colleagues and other professionals in teaching students with disabilities, than their colleagues in mainstream schools.

One should also consider that even though the Chinese model had acceptable fit to the data, its predictive power was somewhat low. The model could explain mainly the variance in efficacy in collaboration, why the R^2 value was low for efficacy in managing behaviour (although statistically significant) and non-significant for efficacy in instruction.

4.3. Unique characteristics of the Finnish model

The Finnish model was the only one in which participants' training related to inclusive education had significant effect on self-efficacy dimensions. Considering that Finland has a longer history of the implementation of inclusive school practices and that the Finnish teacher education system is well resourced, this is not a surprising result. On the other hand, the average amount of such training was small, and in all three countries, about two-thirds of the participants responded that they had received either *no training* or only *little training* on inclusive education. When comparing these responses in different countries, one should however note, for example, that in Finland there is a well-developed learning support pull-out system for children with special education needs where support is provided by specialist teachers and that most teachers hold a Master's degree. In South Africa, the majority of teachers possess teacher diplomas as their highest level of professional qualifications, and due to financial constraints and lack of specialist

support personnel, teachers are expected to support children with special educational needs within their mainstream classrooms. Due to this cross-cultural variation in the level of education and resources in the form of specialist support personnel, the participants may interpret the meaning of *little training* differently. It is possible that to the Finnish respondents, *little training* actually implies much more training than the same response by a South Africa respondent would imply.

Another distinct feature of the Finnish model was the role of gender in explaining efficacy in managing behaviour. Compared to their female counterparts, Finnish male teachers had significantly higher evaluations of their competence in dealing with behaviour issues, while such a connection was not found in the Chinese and South African samples. Nonetheless, studies from other countries have reported a connection between gender and efficacy in classroom management. In a study by Skaalvik and Skaalvik (2007), Norwegian male teachers had significantly higher self-efficacy for maintaining discipline, and Klassen and Chiu (2010) obtained a similar result in Canada, where they found that male teachers had higher average scores in classroom management self-efficacy.

4.4. Unique characteristics of the South African model

When interpreting the characteristics of the South African model, it is at the outset important to emphasise that these characteristics should be analysed against the following background. South Africa is regarded as a developing country with a myriad of competing demands on its financial and human resources (e.g. well trained teachers). The result is that in most instances, South African schools are overcrowded and under-resourced, and in some instances lacking basic necessities such as water and electricity (Walton, 2011).

The South African model of explaining teacher self-efficacy for inclusive practices included two variables that were not part of the other two country models. These variables were *interactions with persons with disabilities* that explained significantly all three self-efficacy factors and *participants' age* that explained efficacy in collaboration and efficacy in managing behaviour.

Participants' interactions with persons with disabilities were considered to be a potential source of mastery experiences. Even though these interactions may have taken place outside school context, among South African teachers they still seem to have some connection, especially with the ability to collaborate with parents, colleagues, and other professionals, in their work. These skills also seem to develop with age, since older South African teachers evaluating themselves more competently in collaboration between colleagues within a school, between parents and teachers, and with support professionals including educational psychologists, was the exception rather than the norm until recently. Since most teachers are not adequately trained and experienced, as mentioned earlier, the ability to understand what their roles and responsibilities are in a collaborative support process in the development of inclusive schools poses a key challenge in the implementation of inclusive education.

Finally, when interpreting the South African results, one should also remember that the predictive power of the model was considerably higher for efficacy in collaboration than for efficacy in instruction or efficacy in managing behaviour. This means that the model did not explain particularly well the variation in the latter two teacher self-efficacy dimensions.

4.5. Limitations and further suggestions

The current study has some obvious limitations. First, the data were collected by using a questionnaire that had been translated

from English into three local languages. The questionnaire went through careful translation, piloting, and revision, but it is still possible that some items in the local language versions do not capture the intended meaning of the original English language version. In some cases, a direct translation of the English sentence would have compromised the validity of the questionnaire. For example, the phrase 'students with disabilities' could not be translated into Finnish verbatim, as the corresponding word for 'disabled' does not fit in the educational context in Finland. Instead, a translation of the phrase "students with special education needs" was used in some items in order to increase the relevance in the Finnish context.

A second limitation has to do with the sampling. The current study was based on a convenience sample, and even though efforts were made to include schools from a variety of socio-economic contexts in the respective regions, the findings cannot be generalized to the overall population of teachers in the three countries. For example, in the Chinese investigation, the data were collected only from Beijing municipality, where the level of economic and social development is considerably higher than that in many other provinces, especially in the Central and Western parts of China.

Thirdly, there was variation in the way the data were collected in the sample countries. It may be possible that these differences may affect the comparability between countries. In some cases, the effort to overcome the practical challenges of each context also resulted in a certain lack of control in the data collection procedure; for example, in China and Finland, we could provide only an estimation of the response rate.

Fourthly, in some cases, the country model explained only a very small or even non-significant share of the variance in individual dimensions of self-efficacy. This indicates that there are also other variables not included in the current models. It would have been interesting for example to investigate the potential differences between primary school and secondary school teachers. Unfortunately, some participants gave ambiguous answer to the questions of what grades they were teaching, which meant that this variable could not be included in the analysis. Identifying and adding more variables to the future models would help to increase the predictive power of future efforts to explain teachers' efficacy evaluations.

Despite the above-mentioned limitations, the study has several implications. One implication is that if we want to develop teachers' efficacy in inclusive teaching we should provide them with more opportunities to be involved in such activities. This suggestion is so simple that it is unlikely to surprise anyone. However, the simplicity may be deceptive, since clear and straightforward exposure to inclusive classrooms does not automatically produce positive mastery experiences, if the situation is too demanding to handle and there is no additional support or further training available for the teachers. One should also avoid experiences of easy success when trying to improve the teachers' efficacy beliefs. Previous literature suggests that if people experience easy success, they only come to expect quick results and become soon discouraged when they encounter difficulties. Resilient self-efficacy can be achieved only through experiencing and overcoming obstacles through perseverant effort (Bandura, 2012).

One example of teachers gaining counterproductive experiences is from South Africa, where a quick move towards the implementation of inclusion with inadequate training and support has made many teachers resist the further implementation of inclusive education (Engelbrecht, 2006). Having said this, even with the help of adequate support and efforts to develop intensive training programs, it is unrealistic to expect teachers' efficacy beliefs to change overnight, since the efficacy beliefs, especially those of experienced teachers, tend to remain quite stable even after new training (Tschannen-Moran et al., 1998).

However, providing opportunities for teachers working in schools to gain positive experiences in inclusive education will not be enough. In the long run, a serious shift towards more inclusive education can take place only if pre-service teacher education takes up the challenges of inclusive education seriously. Both the research findings of this study as well as influential policy recommendation documents (Mourshed et al., 2010, pp. 82–83; OECD, 2009, pp. 101–103) suggest that, in particular, the idea of collaboration in teaching and planning of teaching should be given more emphasis in pre- and in-service teacher education. In addition, teachers themselves often acknowledge the importance of collaboration in developing schools that respond better to student diversity. One grassroots example comes from China, where one of the authors recently conducted in-depth interviews with more than 20 teachers from four different Beijing schools. The interviewed teachers on multiple occasions emphasised the positive role of collegial support and cooperation in teaching challenging students (personal communication, March 23–April 12, 2012).

The obvious implication of this is that pre-service teacher education must offer opportunities for the different types of teacher candidates (e.g. mainstream teachers and special education teachers) to practise collaboration already during their initial teacher education programmes.

Finland can be taken here as an example, of a country where much of the special education teacher education still takes place in university programmes that are run separately, parallel to other teacher education programmes. There is some evidence that mainstream teachers' feeling of efficacy in teaching students with diverse needs may be lowered by the practical situation in Finland, where every school has special education teacher(s). This example illustrates that teacher education programs should aim at unlocking of the feeling of incompetence and building new models for collaboration between mainstream and special education teachers. International studies on the efficacy of special education (Forness, 2001; Mitchell, 2008) provide good justification for doing so, as many of the most effective interventions used in special education are approaches that all teachers can use and probably use already in schools world-wide.

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