Zhang, Tingzhao (2019) *Pedagogical approaches: a study of gifted readers in the primary classroom in Guangzhou, China and East Ayrshire, Scotland.* PhD thesis.

https://theses.gla.ac.uk/73022/

Copyright and moral rights for this work are retained by the author

A copy can be downloaded for personal non-commercial research or study, without prior permission or charge

This work cannot be reproduced or quoted extensively from without first obtaining permission in writing from the author

The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the author

When referring to this work, full bibliographic details including the author, title, awarding institution and date of the thesis must be given

Enlighten: Theses
https://theses.gla.ac.uk/
research-enlighten@glasgow.ac.uk

Zhang, Tingzhao (2019) ***Pedagogical Approaches: A Study of Gifted Readers in the Primary Classroom in Guangzhou, China and East Ayrshire, Scotland*****. PhD Thesis.**

The copyright of this thesis rests with author. No quotation from it should be published without author's prior consent and information derived from it should be acknowledged.

Enlighten: Theses
http://theses.gla.ac.uk/

theses@gla.ac.uk

Pedagogical Approaches: A Study of Gifted Readers in the Primary Classroom in Guangzhou, China and East Ayrshire, Scotland

Zhang Tingzhao

BEc, M.Ed.

A Thesis Submitted in Fulfilment of the Requirements for the Degree of

DOCTOR OF PHILOSOPHY

School of Education

College of Social Sciences

University of Glasgow

(May) 2019

Abstract

This thesis explores how teachers conceptualise and teach gifted readers in the primary school classroom in China and Scotland. Gifted readers are a group of children who can demonstrate advanced and high abilities in reading, and appropriate reading materials and differentiated instructions should be provided to support their development. However, there is a paucity of literature in relation to current schools' provision for gifted readers in the socio-cultural contexts of China and Scotland.

The qualitative study, which was embedded in a constructivist paradigm, was located in primary schools in Guangzhou, China and East Ayrshire, Scotland. It involved the use of a semi-structured questionnaire to provide a snapshot of Chinese and Scottish teachers' conceptualisations of and teaching practices for gifted readers. The main research method – the semi-structured interview - was used to explore teachers' and literacy coordinators' (including head teachers, deputy head teachers and principal teachers) in-depth and diversified perspectives relating to the teaching of gifted readers in China and Scotland. Thematic analysis was mainly used to analyse the interview data. The data collected were examined in order to explore the socio-cultural influence on teachers' perceptions on and practices with gifted readers.

This thesis contributes to the understanding of general gifted education but also gifted education regarding the subject of reading in two different socio-cultural contexts. The findings suggested that both Chinese and Scottish teachers perceived that gifted readers were proficient readers that could demonstrate higher reading ability than their similar-aged peers. Many teachers tended to believe that a literacy-rich family environment nurtured gifted reading ability. A difference emerged between Chinese and Scottish teachers in terms of how they perceived the role of school education for gifted readers. While Scottish teachers thought that gifted readers could be nurtured by school education, Chinese teachers viewed primary education as providing basic education rather than providing additional education for children who might require this. It was also found that Scottish teachers had more flexibility and autonomy to select a wide range of texts for their gifted readers, yet they had limited time so this limited their practices. In the classroom in China, to a large extent, the use of literacy textbooks prescribed what should be taught, and it appeared that Chinese teachers had less autonomy to tailor their teaching to suit the needs of gifted readers. The

study showed that Scottish teachers adopted more pedagogical strategies such as differentiation and a focus on higher order thinking to develop gifted readers. However, Chinese teachers' teaching for gifted readers was constrained by intense exams, a centralised education system, heavy workload and insufficient professional support. The empirical data demonstrated that a lack of educational resources and highly centralised education system could potentially impede the development of gifted learners. It was also found that the social activity of teaching for gifted children was deeply embedded in the two particular sociocultural contexts of the study.

Table of Contents

Abstract ..... **ii**
Table of Contents ..... **iv**
List of Tables ..... **ix**
List of Figures ..... **x**
Acknowledgements ..... **xi**
Authors' Declaration ..... **xii**
Abbreviations ..... **xiii**
Chapter 1 Introduction **1**
1.1 Introduction and Rationale 1
1.2 Research Contexts 4
1.2.1 Gifted Education in Scotland 4
1.2.2 Gifted Education in China 6
1.3 Research Aim and Questions 8
1.4 Significance of the Study 9
1.5 Research Design 10
1.6 Organisation of the Thesis 10
Chapter 2 Literature Review **12**
2.1 Introduction 12
2.2 Conceptual Understanding and the Development of Giftedness 13
2.2.1 Historical Conceptualisations of Giftedness 13
2.2.2 Gagné's Conceptualisation of Pathway towards Excellence 16
2.2.3 Ziegler's Systemic Thinking for Gifted Education 21
2.2.4 Divergence and Convergence in Gagné's and Ziegler's work 27
2.2.5 Teachers' Conceptualisations of Giftedness Internationally 30
2.3 Reading and Gifted Readers 31
2.3.1 Reading Abilities 32
2.3.2 Definitions and Characteristics of Gifted Readers 34
2.4 Classroom Organisation for Supporting Gifted Readers 36
2.4.1 Class Pedagogical Approaches 37
2.4.2 Provision to Develop Gifted Readers 46
2.5 Conclusion 53
Chapter 3 Education Systems and Teaching Gifted Readers in China and Scotland **54**
3.1 Introduction 54

3.2 The Place of Gifted Education in Scotland: Historical, Cultural and Legislative Perspectives 54
3.3 The Contemporary Education System in Scotland.....56
3.4 Curriculum Guidance for Teaching Gifted Readers in Scotland 59
3.5 The Place of Gifted Education in China: Historical and Cultural Perspectives 64
3.6 The Contemporary Education System in China 66
3.7 Primary Literacy Curriculum for Teaching Gifted Readers in China 70
3.8 Synthesis 73
Chapter 4 Methodology 75
4.1 Introduction 75
4.2 Qualitative Approach 76
4.2.1 Through the Lens of Comparison.....77
4.2.2 Gifted Education in China and Scotland.....79
4.3 Research Design.....80
4.4 Methods of Data Collection 82
4.4.1 Semi-structured Questionnaire 83
4.4.2 Semi-structured Interview 84
4.5 Sampling 86
4.6 Data Analysis 89
4.6.1 Coding the Qualitative Data 89
4.6.2 Transcription.....92
4.6.3 Research Bias 93
4.6.4 Dealing with Partial Response in the Questionnaire.....94
4.7 Ethical Considerations.....94
4.8 Conclusion 96
Chapter 5 Preliminary Study: Findings and Analysis from Questionnaires in China and Scotland 97
5.1 Introduction 97
5.2 Scottish teachers' Responses 98
5.2.1 Participants.....98
5.2.2 Scottish Teachers' Definitions and Perceived Characteristics of HARs 99
5.2.3 Teaching HARs through Using Texts 102
5.3 Chinese teachers' Responses.....108
5.3.1 Participants.....108
5.3.2 Chinese Teachers' Definitions and Perceived Characteristics of Gifted Readers 109
5.3.3 Teaching Gifted Readers through Using Texts.....110
5.4 Comparison and Synthesis.....117

Chapter 6 Main Study - Findings and Analysis of Interviews in Scotland 120
6.1 Introduction 120
6.2 Scottish Teachers' Conceptualisation of HARs 122
6.2.1 Characteristics of HARs 122
6.2.2 Home Environment 124
6.2.3 School Education 126
6.2.4 Instruction of HARs 127
6.3 Reading Resources Used for HARs 130
6.3.1 Appropriateness of Reading Materials 130
6.3.2 Exposure to a Variety of Texts 132
6.4 Teaching of HARs 134
6.4.1 Differentiation in Mixed-ability Classes 134
6.4.2 Higher Order Thinking Ability 136
6.4.3 Independent Learning 137
6.4.4 Grouping within Class 137
6.4.5 Collaboration with Parents and Colleagues 139
6.5 Justification for Teaching HARs 140
6.6 Sourcing Reading Materials for HARs 142
6.7 Teaching of HARs 144
6.8 Collaboration with Related People for HARs' Education 146
6.9 Scottish Teachers' Professional Development 147
6.10 Conclusion 148
Chapter 7 Main Study - Findings and Analysis of Interviews in China 149
7.1 Introduction 149
7.2 Chinese Teachers' Conceptualisation of Gifted Readers 151
7.2.1 Gifted Reading Ability 151
7.2.2 Home Environment and School Education 153
7.2.3 Inherited Abilities 156
7.2.4 Instruction of Gifted Readers 157
7.3 Reading Resources Used for Gifted Readers 159
7.3.1 Use of Textbooks for Gifted Readers 160
7.3.2 Use of Extracurricular Texts for Gifted Readers 161
7.4 Teaching of Gifted Readers 163
7.4.1 Differentiation for Teaching 163
7.4.2 Allowing Independence 166
7.4.3 Collaboration with Parents 167
7.4.4 Other Strategies 169

7.4.5 Influence of Exam-oriented Learning and Teaching on Gifted Education 169
7.5 Sourcing Reading Materials for Gifted Readers.....171
7.6 Teaching of Gifted Readers.....174
7.7 Collaboration with Related People for Gifted Readers' Education 178
7.8 Chinese Teachers' Professional Development 180
7.9 Conclusion 181
Chapter 8 A Socio-cultural Exploration of China and Scotland 182
8.1 Introduction 182
8.2 Teaching Gifted Readers and Influence of Legislation and Policy 183
8.3 Centralised Educational System and Teacher Autonomy 186
8.4 Pedagogical Practices.....187
8.5 Access to and Knowledge of Reading Texts.....193
8.6 Collaboration with Parents and Professionals.....196
8.7 Conclusion 198
Chapter 9 Conclusion.....199
9.1 Introduction 199
9.2 Key Findings 200
9.3 Research Implications 202
9.4 Research Limitations.....205
9.5 Recommendations for Future Research 206
9.6 Suggestion for Teachers 208
List of Reference.....209
Appendices 236
Appendix A: The Permission Email from Dr. Françoys Gagné.....236
Appendix B: Teachers' Survey for Highly Able Readers 238
Appendix C: 对阅读能力超常学生的教学现状调查 249
Appendix D: Interview for Teacher 257
Appendix E: Interview for Literacy Coordinator.....258
Appendix F: 访谈（教师）(Interview for Teachers) 259
Appendix G: 访谈（教学组长）(Interview for Literacy Coordinators) 261
Appendix H: An Excerpt of Interview with ST4 262
Appendix I: An Excerpt of Interview with CT1 263
Appendix J: Application Approved 264
Appendix K: Participant Information Sheet 265
Appendix L: 研究参与须知 (Participant Information Sheet) 267
Appendix M: Consent Form (Questionnaire) 269
Appendix N: Consent Form (Interview).....270

Appendix O: 同意书 (Consent Form for Questionnaire) 271
Appendix P: 同意书 (Consent Form for Interview) 272

List of Tables

Table 2. 1 Gagné's Metric-Based (MB) System of Levels within the Gifted/ Talented Population 19
Table 2. 2 Definitions of the educational and learning resources 26
Table 2. 3 Definitions of gifted readers 35
Table 3. 1 Scottish Education System 57
Table 4. 1 Participants of questionnaires 88
Table 4. 2 Participants of interview 88
Table 4. 3 An example of coded transcript 92
Table 5. 1 Number of Scottish teachers who have attended specific training or courses 98
Table 5. 2 Scottish teachers' definitions of HARs 99
Table 5. 3 Scottish teachers' feeling about teaching HARs 105
Table 5. 4 Factors that influenced Scottish teachers to develop HARs 106
Table 5. 5 Number of Chinese teachers who have attended specific training or courses 108
Table 5. 6 Chinese teachers' definitions of gifted readers 109
Table 5. 7 Chinese teachers' feeling about teaching gifted readers 115
Table 5. 8 Factors that influenced Chinese teachers to develop gifted readers 117
Table 6. 1 Main themes and sub-themes derived from Scottish teachers' data 121
Table 7. 1 Main themes and sub-themes derived from Chinese teachers' data 150

List of Figures

Figure 2. 1 Gagné's Differentiated Model of Giftedness and Talent 17
Figure 2. 2 Ziegler's Actiotope Model of Giftedness (Ziegler, 2005: 421).....23
Figure 2. 3 Taxonomy of reading abilities, adapted from Xia (2001) 33
Figure 2. 4 Teachers' differentiation strategies 38
Figure 4. 1 The qualitative research design 81
Figure 5. 1 Number of Scottish teachers who used each strategy for HARs 103
Figure 5. 2 Number of Chinese teachers using each strategy for gifted readers 112

Acknowledgements

When I began this journey, I thought that this thesis project was an individual work. However, the further I went, the more I believe it is a team work. Many lovely people contributed to this research, either cognitively or affectively.

My sincerest thanks firstly go to my supervisors Dr Margaret Sutherland, Dr Beth Dickson and Dr Cheng Ming. They are very inspiring, supportive, and always patient with my PhD study. As English is my second language, I often feel the anxiety to read, write and speak. But all of them understand my language and cultural barrier so well and encourage me to keep working. I would also thank Dr Evelyn Arizpe, Dr Maureen Farrell and Ms Julie McAdam. They opened a door of children's books, reading and ways to do research to me. My special appreciation goes to Professor Nicki Hedge, who skyped with me in her holiday to support me effectively through some difficult issues.

My thanks to Ms Kirsty McKnight, Professor Peng Jianping, and all the Chinese and Scottish participant teachers, head teachers, and deputy head teachers in East Ayrshire and Guangzhou. They really offered me an insight and gift of learning and teaching of reading. I also want to thank Dr Alan McManus, who did wonderful proofreading to polish my writing.

I would like to thank Chinese Scholarship Council who support me financially through the journey. The longer I stayed abroad, the more I love every tiny thing about my homeland.

Big thanks to all my lovely colleagues from all over the world in the School of Education, Arlene and Frances who always respond quickly to assist my work, Sheena and her colleagues who keep us in a clean environment in Room 683, Gordon and his colleagues who keep us safe in the St Andrew's Building.

Finally, no words can express my gratitude to my parents, my husband and my dog Toothless. I often discussed research with my husband Fanyu through facetime, and he always told me "It's just literature review. You just get some points and put them together, very easy". His funny words always made me feel relaxed and confident again. Perhaps the most difficult part of doing a thesis is not intelligence and cognition; rather it is psychology, affection and commitment. This journey also helps me to think more about talent development.

Authors' Declaration

I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.

Printed Name: Zhang Tingzhao

Signature:

Abbreviations

AMG	Actiotope Model of Giftedness
CfE	Curriculum for Excellence
CPG	The Central People's Government of the People's Republic of China
DMGT	Differentiated Model of Gift and Talent
GIRFEC	Getting it right for every child
HAR	Highly able reader
ICT	Information and Communication Technology
MOE	Ministry of Education of the People's Republic of China
NCEE	National College Entrance Examination
PRC	The People's Republic of China
SEM-R	Schoolwide Enrichment Model–Reading
STEM	Science, Technology, Engineering, and Mathematics
UNESCO	United Nations Educational, Scientific and Cultural Organization
ZPD	Zone of Proximal Development

Chapter 1 Introduction

1.1 Introduction and Rationale

Literacy is of significant importance to the development of every individual as well as the prosperity of human society as a whole (UNESCO 2004, 2017). For children at school, not only does literacy relate to the study of language and literature, but it is also a fundamental ability in achieving success across the curriculum. When learning other subjects, learners need language to understand, express and form ideas, and linguistic experience can be expanded through different areas of the curriculum (Bearne, 1998). With an ability in literacy, an individual can experience the irreplaceable life pleasure of reading a variety of texts (Cremin, 2014). The United Nations has been devoted to improving literacy for everyone in the past few decades and deems literacy as an integral part of the basic human right of education. According to UNESCO (2017), literate individuals can become life-long learners because their capabilities empower them to access a variety of social and learning opportunities in this fast-changing and information-rich era. With competence in literacy an individual can connect to the world by communicating with others, gaining access to social resources, participating in social activities and gradually becoming an autonomous person by thinking critically and understanding the world. It is at this point that development of literacy contributes to social justice, democratic processes (Winch *et al.*, 2006), human well-being and human liberation (Rassoul, 1999). Therefore, it is important for society in general and schools in particular to respond to the needs of every learner to develop their ability in literacy.

While there are children who struggle with acquiring and improving literacy, there are also a group of children who have high abilities in literacy and whose development is also an area of concern in research (see, for example, Moore 2005; Sharp & Clemmer 2015; Smith & Arthur-Kelly 2016). Bonds and Bonds (1983), Reis et al. (2004) and Simpson (2017) view those children who read above their grade level or have potential to make rapid progress in reading as gifted readers. Theoretical research on gifted learners, such as the Theory of Multiple Intelligences of Gardner (1983) and the Differentiated Model of Giftedness and

Talent of Gagné (1985, 1995, 2010), identify intelligence or natural abilities that are specifically related to the domain of language and literacy. Also, numerous studies (see, for example, Weigel et al. 2006; Baroody & Diamond 2016; Bergen et al. 2017) reveal that literacy environments that are constructed by family, school and society can contribute to the high reading achievement of child readers. These enviromental factors lead to a variety of readiness of children entering schools and to the different reading competences that children demonstrate in the classroom.

Gifted readers can learn to read more quickly and easily, they retain large quantities of information, to utilise higher order-thinking skills more often (Fehrenbach, 1991, 1994; Reis *et al.*, 2004), understand abstract ideas and show high problem-solving abilities (Sharp and Clemmer, 2015). They read with enjoyment and pleasure, appreciate the beauty of reading, read creatively and critically, and are able to commit to reading activities (Vosslamber, 2002). Due to their early development of reading, the cognitive capabilities of gifted readers are higher than the average level (Simpson, 2017). According to Lev Vygotsky (1978), learners can perform a task that is beyond their ability levels when collaborating with a teacher, a parent or a more capable peer, and learners can then develop their potential. Thus, Garrett et al. (2015) note that inappropriate content and pedagogy may result in excluding gifted children in the classroom and hinder their academic and affective development. The characteristics, outstanding performances and high capability of gifted readers require educators to pay special attention to them and to adopt an appropriate teaching approach to meet their instructional needs.

To explore school provisions for gifted readers, there is a need to look at the wider context of general gifted education. In many countries, numerous efforts have been devoted to education for gifted children (Vrignaud et al. 2013; Plucker & Callahan 2014; Sękowski & Łubianka 2015; Dai et al. 2016). Developing gifted education is of great importance for a nation as well as for each individual in this era of the knowledge economy (Chu, 2012). Advancements in gifted education could promote better assessment of all learners' potential and abilities, provide gifted learners with a more appropriate education by developing their abilities through sufficiently challenging opportunities. The high attainment that each gifted learner achieves, might ultimately increase a country's potential for global competition and new challenges in each field (Siegle 2008; Li & Mou 2009; Sękowski & Łubianka 2015).

However, concerns and tensions accompany the development of gifted education in research, policy and school practices. At the level of ideology, the concern about elitism and the question of educational inequality impede the social acceptance of gifted education to a certain degree in many countries (Dai *et al.*, 2016; Brown and Wishney, 2017; Fu, 2017). In school practices, students with a disadvantaged background could be significantly underrepresented in a chosen identification process (Card and Giuliano, 2016; Olszewski-Kubilius and Corwith, 2017). This leads to the social impression that the provision of gifted programmes is mainly for students from more advantaged backgrounds and that gifted education means more educational resources are allocated for those already demonstrating high ability. Although this criticism does exist, as Wang and Chu (2013) point out, developing gifted education is to ensure education equality so that every child, including gifted learners, is provided with sufficient learning opportunities to be consistently developed. Sutherland and Stack (2014: 76) argue that a society could become more just and equal only when "difference and diversity are celebrated, not segregated". Therefore, this thesis explores the question of how schools and teachers develop students of gifted reading abilities and potential. Furthermore, practices and research in gifted education have a specific emphasis on STEM subjects (including science, technology, engineering and mathematics) in many countries (Dai and Kuo, 2016) as achievements in these subjects can directly and visibly contribute to technological development in society (Stevenson et al. 1994; Batterham 2000). However, various studies (see, for example Gardner 1983; Renzulli 2002; Sternberg 2003; Gagné 2004; Subotnik et al. 2011) have identified different kinds of high abilities and achievements across academic subjects and fields. In addition to STEM, high ability and achievement is also demonstrated by some learners in the domain of reading (Sharp and Clemmer, 2015). As discussed above, literacy, of which reading is one important aspect, is fundamental to the development of an individual. In addition, literacy and reading is crucial for learning STEM. Therefore, as well as STEM, the education for children who are gifted at reading should be equally valued and promoted.

Research (see, for example, Catron & Wingenbach 1986; Vosslamber 2002; Moore 2005) demonstrates that provisional strategies such as ability grouping, enrichment, acceleration, creative reading and independent reading can be shown to be effective to meet the needs of gifted readers (this will be discussed in detail in Chapter 2). However, teachers who implement these strategies in class, and so play a vital role in nurturing gifted readers, are

rarely the focus of empirical research. There is a lack of research especially in relation to teaching practices in sociocultural contexts. Rarely has research reported on the past and current situation of teaching practices of gifted readers in Chinese and Scottish contexts. This research gap could be seen to inhibit policy makers, researchers and practitioners as they plan and develop provision of appropriate education for gifted readers. Though synthesis between two countries can provide each education system with valuable experience and opportunities to understand itself by reflecting on another, teaching of gifted readers has rarely been studied from this perspective. Therefore, this study aims to explore teachers' conceptualisations and practices with gifted readers in both Chinese and Scottish contexts.

1.2 Research Contexts

1.2.1 Gifted Education in Scotland

Situated in the north of Great Britain and the west of Europe, Scotland is one of the four countries that constitutes the United Kingdom. It has a population of approximately 5.4 million (National Records of Scotland, 2017) which is quite small compared to the 65.6 million total population of the UK in 2016 (Office for Naitonal Statistics, 2017). Although Scotland's policy agenda and economy has been shaped by the UK government and also the European Union to some extent, a unique political, economic and sociocultural context and a strong sense of cultural identity are present within Scotland (MacKinnon, 2015). Scotland has its own education system that is considerably different from other parts of the UK, and within the education system 32 local authorities operate their own state schools (The General Teaching Council For Scotland, no date). Scotland has its unique social values, legislation, policy and educational approach that underpin and operate the system (Sutherland and Stack, 2014), and gifted education is constructed and implemented in this particular sociocultural context.

Within Scotland, Sutherland and Stack (2014) argue that the provision for gifted learners is well situated in Scottish legislation and its inclusive approach to education, through two aspects. Firstly, The Standards in Scotland's Schools etc. Act 2000 (Section 2) (Scottish Government, 2000) states that the aim of education should be towards "the development of

the personality, talents and mental and physical abilities of the child to their fullest potential", which implies "the rights of highly able pupils" (Sutherland & Stack, 2014: 77). As literacy is regarded as the core area for children to develop and is of "personal, social and economic importance" in Curriculum for Excellence (CfE) (Scottish Government n.d.: 1), children who are gifted at reading should be fully supported to continuously develop. Secondly, the Education (Additional Support for Learning) Act 2004, updated in 2009, replaced the term Special Educational Needs (SEN) (Scottish Government, 2004) with Additional Support Needs to indicate that a wider category of learners should be entitled to additional support. The Code of Practice (2005) accompanying the Education (Additional Support for Learning) Act 2004 asserts that "a child who is more able may need a more challenging curriculum in order to make appropriate progress" (Chapter 2: NO.12) (Scottish Government, 2005). The terms "highly able" or "more able" rather than the term "gifted" are used in these policy documents in Scotland. This may be because, the term "gifted" is criticised as implying that high ability or achievement is bestowed by God (Freeman, 1998), the term "able" seems less emotive, has fewer religious overtones and relates more to achievable abilities (Council for the Curriculum, Examinations and Assessment 2006). Furthermore, the Children and Young People Act 2014 (asp) also ensures the rights of gifted learners by stating that the Children's Service is provided for:

> (a) children generally, or
>
> (b) children with needs of a particular type (such as looked after children or children with a disability or a need for additional support in learning),
>
> (Scottish Government, 2014: Part 3, No. 6)

In Scotland, *Getting It Right For Every Child* (GIRFEC) is a national supportive approach to ensure that the wellbeing of all children and young people is safeguarded through partnership between families, schools, communities and health services. This approach also recognises individual differences due to unique backgrounds and that "every child and young person has the right to expect appropriate support from adults to allow them to develop as fully as possible" (Scottish Government, 2012a). Furthermore, the initiative "Raising Attainment for All" (Scottish Government, 2014b) and "National Improvement Framework" (Scottish Government, 2016a) were launched with the aim of closing the poverty-related gap and improving attainment for all children in key areas, including literacy. Thus, in the Scottish policy context, it is clear that achievement for children who are gifted at reading should also be included and raised and that all schools have the responsibility to achieve this.

In Scotland there is a properly constituted system that involves legislation, policies, government funding, and university departments providing teacher education to support the provision of quality education. However, Stack and Sutherland (2014) point out that care must still be taken due to the potential gap between each stakeholder. There is a need to ensure shared understandings for gifted children and appropriate provision among local authorities and school practitioners (Sutherland, 2011). Furthermore, since legislation and policy were formulated to achieve inclusion for gifted children relatively recently, it may take time for school practices to evolve. This evolving process should benefit from substantial research to investigate sensitively the real practices and challenges that practitioners are facing and to shed light on future policy making to facilitate gifted education. Thus, this study seeks to make a contribution to the understanding of the current provision for gifted children in the area of literacy in a Scottish primary school.

1.2.2 Gifted Education in China

Since the beginning of deep reform for modernisation in 1978, China has experienced a rapid growth in Gross Domestic Product and other social developments and, now with a population of 1.3 billion, it has become the second largest economy in the world after the USA and is also the largest contributor to the global economy (The World Bank, 2017). China faces great challenges in many fields, such as environmental pollution, complicated diplomatic relations, technology innovation, urbanisation, and educational imbalance (The World Bank, 2017). However, these challenges are also opportunities, if they can be met by commitment and wisdom. These issues demonstrate China’s potential to play an influential role for all the benefit of humankind in the era of globalisation. All these challenges and opportunities need to be addressed by talented and highly educated people; talented and highly educated people require high quality education (CPG, 2010). In order to achieve this, the government launched the *Outline of China's National Plan for Medium and Long-term Education Reform and Development 2010-2020* (The Central People's Government of the People's Republic of China [CPG] 2010). In Chapter Eleven, System Reform for Talent Cultivation, it stated that individual differences should be considered in educational provision, and schools should aim to develop the talent and potential of every student and establish diversified assessment systems (CPG, 2010). Gifted education in China, therefore, is situated within this national strategy and insightful vision.

Although, in China, gifted education repeatedly receives much attention in some policy documents (see, for example, *Outline of China's National Plan for Medium and Long-term Education Reform and Development 2010-2020*), the overall legislation and policy framework is still incomplete and ideologically there is a problem regarding the legitimacy and rationality of formal provision for gifted education (Chu, 2012). Inclusive education and special education in China is only for those children with disability. There is a lack of infrastructural support and qualified teachers, as well as insufficient research and research funding in the development of gifted education, and inconsistent educational provision for gifted students between nursery, primary, secondary and higher education (Dai *et al.*, 2016). Particularly, gifted education is deemphasised in the stage of compulsory education (Chu, 2012) because this stage is regarded as aiming to universalise basic education for children under limited government finance. Several issues contribute to a lack of systematic provision, supported by legislation, for gifted students. Firstly, educational resources are scarce and unevenly allocated in some regions in China, thus gifted education cannot be supported financially and systematically. Ziegler and Stoeger (2017) point out that educational resources are of central importance for gifted education and the continuity of support from educational capital can ensure the continual and systematic development of gifted learners. Secondly, as China is still a developing country with an imbalanced regional economy, there is severe public concern that gifted education will become a controlled tool for increasing resource allocation for a small group of people and for social segregation (Fu, 2017). These problems need to be carefully addressed before gifted education can be systematically integrated into the whole educational system.

While it is acknowledged that gifted education in China is facing great challenge and crisis, literary reflection on gifted education can be traced back thousands of years. During the Sui Dynasty (AD 581-618), the imperial court started *Keju*, which is an annual national examination to identify and recruit talented people to be officials. Literacy, based on classic texts of Confucianism, was the only area to be tested through *Keju*. This indicates that China has a cultural tradition that emphasises literacy and has already been used to identify gifted literacy learners to serve the country. At that time, obedience, memorisation of Confucianism texts, hard work and perseverance were valued by this system (Wu, 2005). Although this kind of assessment of talent may now be considered by academics as rather rigid and so impeding the creativity and autonomy of learners (Li and Mou, 2009), part of this thinking

still contributes to Chinese society's current understanding of giftedness. In social ideology, Chinese people tend to believe that giftedness is mostly nurtured, which is also indicated by the old saying, "Diligence can supplement inadequacy" (Dai *et al.*, 2016). It can be seen that nurture is regarded as being of great importance for personal success by Chinese society (Zhang, 2017). Confucianism, as a core culture and education philosophy of the past and current China, believes that education should include everyone without discrimination (有教无类) and that teaching should align with students' characteristics and abilities (因材施教) to address individual differences. These traditional beliefs still profoundly impact the current education system in China (Zheng, 2010). China has cultural heritage and national strategic significance for gifted education, and most importantly, the awareness that there is a need to educate children according to individual difference although the problems discussed above remain and there is a difference between rhetoric and reality. Therefore, in every level of consideration, the current situation of underdevelopment of gifted education may be changed through the effort of educators and gifted education may gradually develop in the education system as a whole and will play a crucial role for the prosperity of the whole Chinese society.

As in Scotland, the Ministry of Education of the People's Republic of China (MOE) (2011) has pointed out that literacy is the basic foundation for children to develop across curriculum areas and is key for personality development. However, across the education system in China, key schools and classes, as the main form of gifted education, have a particular focus on STEM (Fu, 2017). Dai and Kuo (2016) highlight the need to allow excellence to develop in diverse areas. Thus, this research puts emphasis on the under-researched but important area that is gifted education in relation to the wider area of literacy and specifically explores how teachers understand and teach gifted readers in a Chinese primary school. Culture, society and gifted education in China and Scotland are explored in more detail in Chapter 4.

1.3 Research Aim and Questions

Following the rationale introduced above, this research aims:

- To understand primary teachers' conceptions of gifted readers in both Chinese and Scottish contexts.
- To examine children's literature used in the primary classroom to support gifted readers in both the Chinese and Scottish contexts.
- To describe and explore how primary teachers address the needs of gifted readers in China and Scotland.

With these three linked research aims in mind the research questions are as follows:

1. How do primary teachers conceptualise gifted readers in China and Scotland?
2. Do primary teachers use children's literature to nurture gifted readers in China and Scotland? If so, what kinds of children's literature do they use?
3. How do primary teachers teach gifted readers in China and Scotland?

1.4 Significance of the Study

This study offers insights into teachers' conceptualisations and teaching practices for gifted readers in the Chinese and Scottish primary school. Thus, it contributes to the knowledge of gifted education in two specific contexts. It also contributes to literacy and literature education, especially in relation to providing effective education for gifted readers. Teachers' use of a variety of texts for gifted readers, including both printed and digital texts, can be understood through this study. Chinese and Scottish teachers may be informed regarding how to better address their gifted readers' instructional needs. Furthermore, this study may shed light on how to support teachers through teacher education programmes and continued professional development. In addition, this study could raise the awareness of the importance of socio-cultural contexts in influencing teachers' conceptualisations and practices in relation to gifted learners, through an exploration of findings from an Eastern and Western country.

1.5 Research Design

This research is premised on a constructivist paradigm and a qualitative approach since the aim is to look for the uniqueness and diversification of teachers' conceptualisations and teaching experiences of gifted readers. The research also synthesises findings from China and Scotland to look for commonalities and differences. Thematic analysis, accompanied by salience analysis, was mainly adopted to organise and interpret the interview data. More diverse answers and unique experiences of teachers could be included through the use of these two analyses to address the research aim. As the philosophical paradigm has indicated the influence of the social context on constructing a social phenomenon, the research explores teachers' perceptions and teaching activities relating to gifted readers in their specific sociocultural contexts.

1.6 Organisation of the Thesis

This thesis is organised into eight chapters. Chapter one presents the rationale and the aim of the research. It sets the scene for the education of gifted learners in China and Scotland, with a specific focus on the school provision for gifted readers.

Chapter two is a critical review of the relevant literature. Theories, models and empirical studies in relation to gifted education are discussed in order to set the theoretical context for the research. Gagné and Ziegler's work are mainly discussed, and their different approaches are used to understand giftedness and gifted education. The literature review explores general conceptualisations of giftedness internationally and how they may be applied particularly to the understanding of, and education for, gifted students who have high ability in reading. The chapter then discusses how reading resources, with a specific focus on children's literature, can develop gifted readers cognitively and affectively. Teaching strategies such as differentiation, ability grouping and use of higher order thinking skills are discussed in order to explore how to effectively address the needs of gifted readers in the primary classroom.

Chapter three contextualises the research through synthesising the issues discussed in Chapter two in the Chinese and Scottish context.

The methodology of the research is considered and justified in Chapter four. Issues in relation to data collection, translation and transcription, qualitative data analysis and ethical consideration are discussed in order to demonstrate that they are congruent with the research aims and questions.

Chapter five presents the analysis of the semi-structured questionnaires collected in China and Scotland. The issues and findings generated at this stage shed light on the later analysis of the interview data.

Chapters six and seven analyse the interviews conducted in Scotland and China respectively. The semi-structured and in-depth interview is the main method of data collection in this research. Analysis in this stage situates itself within the wide background provided by the findings reported in chapter four. Views from teachers and literacy coordinators (e.g. head teachers and principal teachers) are discussed with respect to teaching gifted readers.

Chapter eight relates empirical data to the theoretical framework that is constructed in the literature review. It discusses, explores and concludes findings derived from chapters four to six by observing the similarities and differences of Chinese and Scottish teachers' conceptualisation and classroom practices for gifted readers. Based on the practitioners' perspective and relevant literature, this chapter also discusses how socially constructed gifted education presents itself in an Eastern and Western sociocultural background.

Chapter nine draws overall conclusions from the research. It provides research implications for educational practitioners and policy makers in respect to gifted education in China and Scotland. It also presents the contribution of the research to knowledge, and its possible limitations, as well as recommendations for future research.

Chapter 2 Literature Review

2.1 Introduction

Today's reading classroom is diverse. There is a range of learners, in terms of academic performance, characteristics, interests and backgrounds. Gifted readers are a particular group among these diverse learners who need to be understood and catered for to ensure optimum learning. Gifted readers may be defined as "students reading at least two grades above their chronological grade placement who also had advanced language skills and advanced processing capabilities in reading" (Reis et al. 2004: 315). According to Vygotsky's (1978) zone of proximal development, learning development of gifted readers might be narrowed if their educational provision is not challenging. The reading classroom requires specific considerations for teachers to provide appropriate, enriched resources and to differentiate instructions to meet needs of gifted readers. Therefore, this chapter focuses on exploring how teachers can address these issues to nurture gifted readers in the classroom.

The chapter revolves around four research areas: gifted education, reading, texts and teaching. It begins by providing an extensive review of literature regarding general conceptions and development of giftedness allowing for a clearer understanding of giftedness in reading. Gagné and Ziegler's work are especially used in order to provide different perspectives to understand gifted readers and to understand teachers' diverse perceptions and experiences of gifted readers from different socio-cultural backgrounds. This chapter then discusses the development of reading ability. Concepts and themes relating to gifted readers arise out of the intersection between giftedness, reading education and texts. This leads to an examination of a range of pedagogical approaches and strategies that teachers could use to develop gifted readers. Discussion of these issues through the literature will contribute to what teachers need in teacher education.

2.2 Conceptual Understanding and the Development of Giftedness

2.2.1 Historical Conceptualisations of Giftedness

The scientific and systematic study of giftedness began around the turn of the twentieth century. Researchers conceptualise giftedness from various perspectives, such as psychological and biological constructs, environmental factors, achievements and performances, and culture (see, for example, Terman 1926; Gagné 1985; Ziegler & Phillipson 2012; Dai 2017).

The conceptualisation of giftedness evolved from intelligence-based approaches to multifaceted approaches. It also evolved from an inherited, fixed-trait approach to a dynamic, nurtured approach. In 1896, Galton published his profound work *Hereditary Genius* in which he concluded that genius with high intelligence is hereditary and naturally selective (Galton, 1869). It is from this time that the concept of giftedness was mainly understood within the concept of inherited intelligence (Feldhusen, 2004). Debates around the concept, measurement, and application of intelligence became fierce and the view that intelligence is innate and can be measured was popular at that time. For example, as defined by Terman (1926: 43), giftedness is "the top 1% in general intellectual ability, as measured by the Stanford-Binet Intelligence Scale or comparable measure". Likewise, Howe (1997) argues that inborn intelligence determines mental capabilities and the success that one can achieve by using cognitive abilities. Consequently, gifted abilities were considered by their practical implications and measured mainly through the Intelligence Quotient (IQ)/ achievement test.

However, researchers such as Thurstone (1938) and Renzulli (1986) argue that there are a variety of cognitive, psychological and affective aspects that can contribute to talent development and these aspects cannot be limited to only intellectual abilities. Thus using IQ tests alone would fail to identify some gifted students who possess diversified abilities (Renzulli, 1986). The concept of giftedness began to expand from a homogenous intelligence approach to more multidimensional approaches or multifaceted intelligence (see, for example, Gardner 1983; 1998), and from cognitive constructs to affective constructs (such as motivation and interests). The Multiple Intelligence Model of Gardner (1983; 1999; 2006) posits nine intelligences: linguistic, musical, spatial, logical-mathematical, bodily-kinaesthetic, inter-personal, intra-personal, naturalist and existential. For linguistic

intelligence, Gardner (1983, 2006) argues that it is related to reading and writing abilities. All intelligences are inborn and are based in the brain and nervous system (Gardner 1983; 2006). Gardner notes that intelligence needs to be activated and nurtured through learning opportunities in a particular culture (Gardner, 1999). Gardner (1999: 89) also notes that strength of intelligence in one domain does not necessarily mean high performance, as this will also relate to "personality, character, will, morality, attention, motivation or any other psychological constructs". Thus, it remains a question whether multiple intelligences or inherited abilities are decisive or central to high performance.

Renzulli's (1978, 1986, 2002) Three Ring Conception of Giftedness, brings the perspective of creativity and task commitment into the construct of giftedness and Renzulli (1978) notes that giftedness does not show in one ring, rather it is the interaction of all three. Interestingly, Sternberg's (2003) WICS Model of Giftedness brings in the concept of wisdom to giftedness which emphasises a particular moral aspect for the holistic development of gifted individuals. For different domains, researchers also consider diversified constructs of giftedness. For example, Gagné's (2004, 2010) Differentiated Model of Giftedness and Talent suggests four natural abilities – intellectual, creative, socio-affective, and sensorimotor – which transfer into talent in various fields. Indeed, different domains need particular performance skills.

From a development perspective, the conception of giftedness is suggested as dynamic, unstable and developmental following an individual's development (Subotnik *et al.*, 2011; Dai, 2017). Due to the unstable nature of the development of giftedness, Montgomery (2013) warns that underachieving gifted learners exist when there are insufficient educational opportunities provided for them. This brings concern as to the validity of identification methods. Underachieving gifted learners could not be identified because they could not demonstrate their abilities in the identification process. In his *The Death of Giftedness: Gifted Education Without Gifted Children*, Borland (2003) argues that in nature giftedness is socially constructed, and that this construction is not theoretically coherent, empirically based and thus not useful for education. Definition, identification and special programmes for giftedness are thus often questionable for their validity (Borland, 2003). Therefore, Borland (2003: 118) suggests that we should divert our attention from identifying giftedness and turn instead to "the goal of differentiating curriculum and instruction for all the diverse students in our schools". This highlights a specifically important role for teachers as they are

the ones who implement the differentiated curriculum and instruction for diverse learners in the mainstream classroom.

In the long debate over the constructions of giftedness, an awareness of socio-cultural differences across countries has arisen. Csikszentmihalyi et al., (1993) note that socio-cultural contexts influence how and who societies construct as gifted and talented. Therefore giftedness is not only a personal attribute but also an environmental attribute (Ziegler, 2005). Also, gifted learners develop through their interactions with, and adaptation to, environments and their particular socio-cultural contexts (Ziegler 2005; Sternberg 2007; Ziegler & Phillipson 2012) and thus build their own diverse cultural traits. This contributes to the ongoing debate resulting in researchers from different sociocultural contexts being unable to come to a consensus on the definition of giftedness. This implies that there is a need to understand gifted readers and their education within the sociocultural contexts where they are constructed.

Recently, Ziegler and Phillipson (2012) and Ziegler and Stoeger (2017) proposed a new perspective – toward a systematic theory of gifted education and the Actiotope Model of Giftedness (AMG). Their extensive analysis and review of literature presents some inefficiencies of previous mechanistic approaches, though not all programmes underpinned by this kind of approach are seen as failures (Sarouphim, 2012). The work of Ziegler and colleagues moves away from gifted individuals, and instead stresses the importance of the system, interaction between an individual and the environment and educational resources for talent development (Ziegler and Phillipson, 2012). These authors also move away from potential and innate abilities and focus on performance (or action in Ziegler's AMG).

Gagné's work and Ziegler's work present different views of talent development: while Gagné's work emphasises inherited potential and identification, Ziegler's work does not. They provide their own important perspectives for the contentious issues of nature-nurture and individual-context. However, one issue that they come to a consensus on is the importance of the educational environment in the development of gifted learners. This consensus serves as the foundation of this current research which explores school provision for developing gifted readers.

Therefore, in an effort to be more inclusive and effective in practice, this thesis considers both and takes meaningful ideas from them in different sociocultural and domain contexts. Thus, the first stage in exploring giftedness and appropriate education for gifted pupils is through Gagné's Differentiated Model of Giftedness and Talent. Ziegler's Actiotope Model of Giftedness and systemic thinking is closely examined in the second stage.

2.2.2 Gagné's Conceptualisation of Pathway towards Excellence

In his well-known metric-based and developmental model Differentiation Model of Giftedness and Talent (DMGT), François Gagné (1985, 1995, 2004, 2009, 2010, 2013) conceptualises the transformation of untrained and natural individual abilities (defined as gifts or giftedness) into expertise and competences (defined as talents) within different domains. In this way Gagné firstly proposes to make a clear distinction between giftedness (gift) and talent and attempts to address the issue of the nature-nurture debate. The main three versions of the DMGT (published in 1985, 2005, 2009) show a development of Gagné's thinking, including more domains of gifts and talents (such as business and games) and influencing factors (such as motivation) for talent development following further examination of research and literature. Figure 2.1 below is the most recent version that was obtained directly from Gagné by email (see Appendix A).

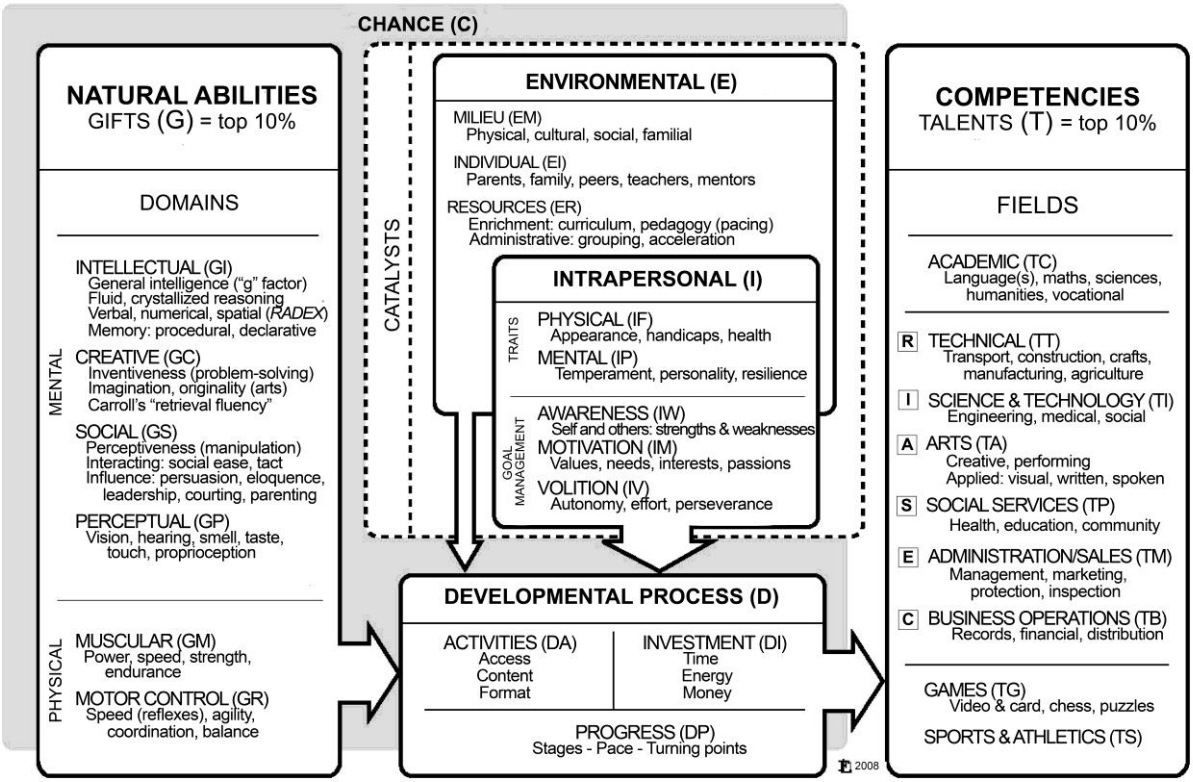


Figure 2. 1 Gagné's Differentiated Model of Giftedness and Talent

In Figure 2.1, Gagné presents the model consisting of six components which are divided into two trios: the talent development trio including gifts, talents and the talent development process, and the catalysts trio including intrapersonal catalysts, environmental catalyst and chance. Intrinsic intellectual abilities (also gifts) were categorised into four domains (intellectual, creative, socio-affective and sensorimotor) in 2004 (Gagné, 2004). In the latest version, DMGT 2.0, the four domains have increased to six domains (intellectual, creative, social, and perceptual within mental natural abilities, muscular and motor control within physical natural abilities), which strengthens the applicability of the DMGT to wider educational contexts (Gagné, 2010). As Gagné (2004) notes, natural abilities in gift sets and excellence achievements in talent sets do not show one-to-one correspondence; language talent in academic fields can be built on a variety of natural abilities, such as general intelligence, creativity, memory, and also social abilities. Thus, it could imply that for students who are gifted at reading, educators need to consider a variety of natural abilities instead of focusing on one kind of ability alone for identification.

According to Gagné (1985, 2004, 2010), to identify someone as talented, one needs firstly to address the pivotal and essential starting point of outstanding raw, natural abilities, which are biologically and genetically based. In early childhood, as he suggests, these spontaneous abilities can be obvious through observation of the learning efficiency of a gifted individual during learning opportunities (Gagné, 2010). Gagné explains how children present giftedness:

> Natural abilities can be observed through the various tasks that confront children… These natural abilities manifest themselves in all children to a variable degree. It is only when the level of expression becomes outstanding that the label 'gifted' may be used… gifts still manifest themselves in older children, even in adults, through the facility and speed with which some individuals acquire new skills…the easier or faster the learning process, the greater the natural abilities.
>
> (Gagné, 2004: 122-123)

Because the DMGT is grounded in the inherited approach, there is a natural need to identify giftedness in order to target gifted provision to the right learners. However, the identification of giftedness is contested and not at all as straightforward as the previous sentence suggests (this is discussed next). The quotation above indicates Gagné's view for the measuring and identification of gifted children in different stages. For Gagné, outstanding natural abilities can be witnessed and information about the learning pace of a gifted individual can be gathered. This normative approach can be used for an initial recognition of gifts according to Gagné (2004). For mental, cognitive abilities, Gagné (2004) proposes IQ measures to indicate possession of outstanding raw abilities and to predict learners' late achievement. Table 2.1 shows Gagné's metric-based, quantitative approach to term different levels of natural abilities.

Level	Label	Ratio in general population	IQ equivalents
5	Extremely	1:100,000	165
4	Exceptionally	1:10,000	155
3	Highly	1:1,000	145
2	Moderately	1:100	135
1	Mildly	1:10	120

Table 2. 1 Gagné's Metric-Based (MB) System of Levels within the Gifted/ Talented Population

Built on research such as that of Galton (1869), Terman (1926) and Renzulli (1986) that use IQ test and ratios of population to construct giftedness and talent, Gagné subdivides gifted/ talented learners into five groups from mildly, moderately, highly, exceptionally to extremely gifted/ talented with the cut-off of top 10 percent of the previous population. The use of normative methods has received much critique. Dai (2004) and Guenther (2004) point out that one needs to learn and then one can perform in an identification process such as an IQ test, thus ''nature" is always "nurtured'' (Dai 2004: 159). It is difficult, especially at a late learning stage of an individual, to distinguish raw, natural abilities from obtained abilities. The learning pace and efficiency of an individual that are observed by practitioners could be due to the learner's possession of high-efficiency learning methods or appropriate learning opportunities that can help the learner to learn quickly and easily. Furthermore, high cognitive abilities that are measured by IQ tests do not necessarily correlate to high social, emotional abilities and divergent thinking (Furnham, 2016; Al-Hamdan *et al.*, 2017). Thus, it is difficult for IQ tests to measure psychological, emotional factors and assess an individual holistically. For the specific domain such as reading, Catron and Wingenbach (1986) also note that identification should emphasise performance rather than IQ measurements in order to facilitate teaching in the classroom. Therefore, Gagné (2004) further suggests that other assessments and recognition methods such as self-assessments and peer judgments could be used to provide more information and learners should be provided with an appropriate learning environment so that their giftedness could be expressed and observed.

Gagné (2013) argues that systematic endeavour of a gifted individual with particular goals leads to talent development in human fields. In this continuous and arduous process, Gagné (2010) suggests that the following sub-components are needed:

- Activities that involve access to learning opportunities, appropriate content or curriculum, and the environment and way for learning.
- Investment in terms of time, money and energy devoted to talent development.
- Progress that depicts stages, pace and turning points in achieving the excellence goal.

(adapted from Gagné 2010)

In Gagné's (2004) view, in many occasions institutional education plays a critical role in this long developmental process because, with conscious intention, such education can provide systemically planned steps for talent development. This view sees the need for school education to consider and provide appropriate education to facilitate talent development. In addition to the constituent components of gifts and talents, intrapersonal and environmental factors (as catalysts and not constituent components) contribute to talent development (Gagné, 2004, 2009). Intrapersonal catalysts involve physical and mental traits, self-management, resilience, passion, autonomy and volition; environmental catalysts involve culture, society, family, peers, teachers, significant individuals and school provisions (Gagné, 2010). These influencing factors can facilitate or hamper the development of talent with different strengths (Gagné, 2004). Thus, Gagné (2012) argues that the DMGT presents the unstable nature of talent development.

Gagné's DMGT might be useful to provide an insight into the development of talent from natural abilities under both individual and environmental influences. There is no doubt that Gagné's work contributes to our understanding in terms of definitions of giftedness and talents, categorisation for abilities and domains, and a collection of intrinsic and extrinsic influencing factors. His work also presents a genetically based pathway for talent development.

Critiques of Gagné's work mainly revolve around the definition, classification and identification of giftedness (see, for example, Baer & Kaufman 2004; Porath 2004; Simonton 2004). Some authors feel that it is not meaningful for educators to decide whether a learner can be labelled as gifted and gain access to gifted education (Porath, 2004). Some argue that intelligence should be regarded as malleable and developmental with a growth mindset

rather than a fixed mindset (Dweck 2016). A fixed mindset views inner intelligence as a fixed quality, which means that either an individual has, or does not have high intelligence. Dai (2017) argues that learners should be regarded as dynamic, adaptive and changing individuals in their unstable development. Therefore, the argument is that our efforts should be directed to create diverse learning contexts rather than identification of individual giftedness so that multiple pathways for excellence can be encouraged (Porath 2004). So, to support gifted readers, teachers should view reading ability of children as malleable and focus more on creating diverse reading opportunities that suit the needs of different children.

While Gagné's work has an emphasis on innate abilities, Ziegler's work focuses on later education and talent development within a system that consists of dynamic and reciprocal interactions between individuals and the environment. While Gagné focuses on the individual, Ziegler focuses on the system. Thus, Ziegler's work stresses the learning context, instead of a definition and the identification of gifted individuals, in gifted education. Ziegler and his colleagues also explore the significant role of different kinds of educational capitals. They argue that these capitals can be cultural, economic and personal, in the talent development of an individual (Ziegler *et al.*, 2017). As it provides another perspective for constructing gifted education, Ziegler's conceptualisation of context and talent development is discussed in the next section.

2.2.3 Ziegler's Systemic Thinking for Gifted Education

Ziegler's work and his Actiotope Model of Giftedness (AMG) builds on the systemic thinking that argues that giftedness emerges as a product of a system (Ziegler 2005; Ziegler & Phillipson 2012; Ziegler & Stoeger 2017). In 2012, Ziegler and Phillipson (2012) firstly called for a total paradigm shift from the current mechanistically gifted approaches in their proposed systemic theory. However, some researchers (see, for example, Sarouphim 2012; Sutherland 2012) note that their theory was unlikely to lead to a paradigmatic change in gifted education. Ziegler and Stoeger (2017) have later acknowledged that their systemic approach should complement the current multifactorial approaches rather than replace them. Indeed, as the system consists of components, and the system in turn influences components; individuals are adaptive to the context and the context can be changed by individuals, especially gifted individuals (Pérez and Beltrán, 2012). Thus, in this view it is meaningful

to explore giftedness and gifted education from both systemic and mechanistic perspectives and see how these two views inform educational practices.

According to the expansive review of literature by Ziegler and Phillipson (2012) , for a long time there have existed deficiencies and ineffectiveness in past and current gifted education approaches. This has been caused by a mechanistic underpinning which emphasises on the effect of each individual factor on a complex system. This underpinning, as criticised by Ziegler and Phillipson (2012), lacks efficacy because it leads educators to overlook the complexity of the relationships and influencing effects (such as asynchrony, stimulus deficit, and neutralization) between those variables (such as supervision time, strategy and motivation) in respect to talent development within a learner's overall action system. This means that pedagogy and strategies used by educators to develop gifted learners should be consistent, systematic, and "co-evolutionary or co-adaptive in nature" (Ziegler & Phillipson 2012: 8). Instead of focusing on one variable and one gifted educational programme alone, educators always need to pay attention to all variables and consider the role of the gifted educational programme in the long, arduous talent development of a gifted learner. The system is crucial for developing excellence and it is therefore important that educators should have this overall view for both the context and an individual (Ziegler and Phillipson, 2012; Ziegler and Stoeger, 2017).

Ziegler (2005) constructs the AMG with four interacting elements: the action repertoire, goals, the environment and subjective action space. It is important to notice that this model can be used to explain human behaviour in all areas thus the behaviour associated with academic excellence or excellence in manual labour could both be understood within this model. It can also be applied to performances in a specific subject, such as numeracy and literacy. For the focus of this thesis, reading actions and the talent domain of reading are analysed specifically on the premise of this model.

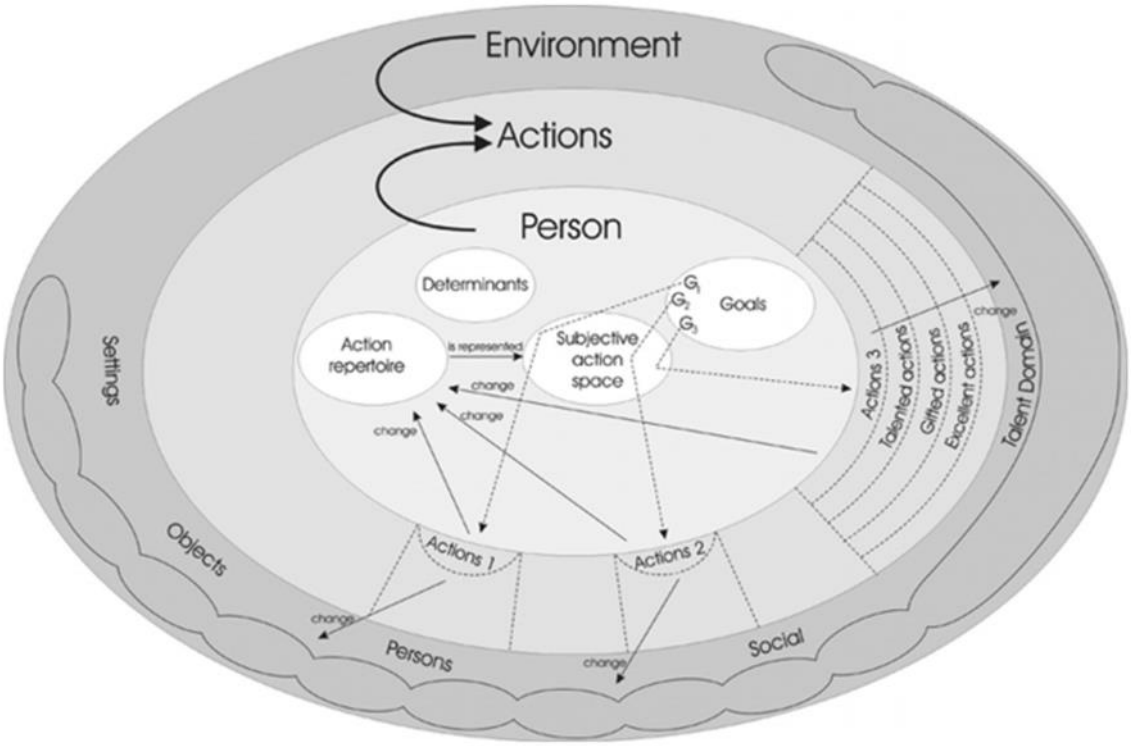


Figure 2. 2 Ziegler's Actiotope Model of Giftedness (Ziegler, 2005: 421)

(This image is used with the consent of the author and the publishing press)

In figure 2.2, reading individuals interact with the reading environment through their actions. Such an environment includes their family, group, class, school, society and cultural context. They should have appropriate and dynamic reading goals which should match their action repertoire levels. Through the expansion of their reading action repertoire, these individuals may be able to execute talented, gifted or excellent actions. In this progress, Ziegler puts an emphasis on the element of subjective action space, which is defined as "a sort of cognitive space in which an individual can generate and make decisions about behavioural possibilities" (Ziegler & Phillipson, 2012: 19). This indicates that for individuals to achieve excellence actions in reading, they should have a correct assessment of their action repertoire, goals and environment and then they can possess the ability to respond and adapt to the reading environment and goals.

The AMG and systemic gifted education is more concerned about the continuous, fluid and unstable development of gifted individuals rather than aiming to achieve the impossible task of predicting an individual's future in the complex environment (Ziegler and Phillipson,

2012). This is also supported by Dai (2017: 172) who notes that talent development should be regarded as "truly developmental, treating the developing person as an open, dynamic, and adaptive system, changing oneself adaptively while interacting with environmental opportunities and challenges". In this case genetic factors should not be regarded as determinant factors in the talent development of an individual. Therefore a notable difference between systemic gifted education and traditional gifted education is that the former does not require the process of a one-time identification and placement based on the learner's status quo for gifted provision (Ziegler and Phillipson, 2012). Thus, in Ziegler and Phillipson's (2012) approach, it is more important to create an individualised pathway for the individual's long-term and systematic development. For achieving this, there should be a gifted education specialist or mentor to follow the development of gifted individuals, to re-assess their achievements at any necessary time and to provide appropriate instructions (Ziegler and Phillipson, 2012; Stoeger *et al.*, 2017). This implies that, for nurturing gifted readers, teachers should not focus on identification of gifted readers, but flexible assessments and instructions to respond to the diverse needs of readers through regular class teaching.

By emphasising the failure of traditional gifted education and insisting only on the validation of the individualised pathway, Ziegler and Phillipson (2012) deny the effectiveness of traditional pedagogies such as ability grouping, enrichment, pull-out programmes and acceleration. However, these teaching pedagogies have firm theoretical foundations in the zone of proximal development pioneered by Vygotsky (1978) and have been evidenced to be able to effectively promote gifted students (see, for example, Lee et al. 2015; Kim 2016; Steenbergen-Hu et al. 2016). Thus, it may be more meaningful for educators to consider how a systemic paradigm can shed light on the use of these traditional teaching pedagogies. In this view, these long-term and combined effects must be considered for gifted individuals. Indeed, use of these pedagogies should be integrated into the individualised pathway.

Resource is a central consideration in Ziegler's systemic paradigm as it ensures internal stability and consistency to expand action repertoires of gifted individuals within a system (Ziegler and Stoeger, 2017). After Ziegler and Phillipson (2012) proposed building gifted education on a systemic paradigm that strongly addresses the importance of context and interactions between individuals and context, Gagné (2012), Duan (2012) and Pérez and Beltrán (2012) criticised this proposal due to its underestimation of the power of an individuals' personal aptitudes and characteristics. However, it could be argued that, as

Ziegler et al. (2017: 311) demonstrate, “learning resources are located not only in the environment but also within the individual” and systemic resources consist of “exogenous learning resources” (also termed as “educational capital”) as well as “endogenous learning resources” (also termed as “learning capital”). This view considers both innate abilities (although they are not necessarily exceptional) and characteristics of individuals. Based on Ziegler’s view, reading achievement is the product of a system that consists of both an enriched reading environment and a reader’s personal capital. Table 2.2 presents their categorisation of resources.

Gifted individuals are unlikely to develop if there are insufficient educational and learning resources (Ziegler and Baker, 2013; Ziegler and Stoeger, 2017). This is supported by the empirical research of Vladut et al. (2015) evidencing that the overall correlation between exogenous/ endogenous capitals and talent development is significant. According to table 2.2, those resources that can initiate and regulate talent development include a wide range of contextual and personal capitals, such as quality schools and committed teachers (social educational capital), money investment from family and government (economic educational capital), cultural values regarding education (cultural educational capital), educational infrastructure (infrastructural educational capital), early caregivers and mentors (didactic educational capital), physiological characteristics (organismic learning capital), and capabilities to set appropriate and long-term goals (telic learning capital) and to realise the goals (episodic learning capital).

Exogenous Resources		Endogenous Resources	
Economic educational capital	Economic educational capital is every kind of wealth, possession, money, or valuable that can be invested in the initiation and maintenance of educational and learning processes.	**Organismic learning capital**	Organismic learning capital consists of the physiological and constitutional resources of a person.
Infrastructural educational capital	Infrastructural educational capital relates to materially implemented possibilities for action that permit learning and education to take place.	**Actional learning capital**	Actional learning capital means the action repertoire of a person—the totality of actions they are capable of performing.
Cultural educational capital	Cultural educational capital includes value systems, thinking patterns, models, and the like that can facilitate—or hinder—the attainment of learning and educational goals.	**Telic learning capital**	Telic learning capital comprises the totality of a person's anticipated goal states that offer possibilities for satisfying a person's needs.
Social educational capital	Social educational capital includes all persons and social institutions that can directly or indirectly contribute to the success of learning and educational processes.	**Attentional learning capital**	Attentional learning capital denotes the quantitative and qualitative attentional resources that a person can apply to learning.
Didactic educational capital	Didactic educational capital means the assembled know-how involved in the design and improvement of educational and learning processes.	**Episodic learning capital**	Episodic learning capital concerns the simultaneous goal- and situation-relevant action patterns that are accessible to a person.

Table 2. 2 Definitions of the educational and learning resources

(Ziegler et al. 2017: 313)

For reading development, which is the focus of this thesis, the constructs of educational resources of Ziegler and Baker (2013) and Ziegler et al. (2017) indicate that children need to be provided with a literacy resource-rich environment throughout their learning process. In this environment, funding to target literacy attainment, reading materials, a culture that values reading, teachers who are specialised at reading, libraries, ICT support, physical fitness and appropriate literacy goals are all suggested to be critical educational and learning capitals. In addition, educators and children should learn how to competently utilise these available resources to achieve literacy excellence (Ziegler & Stoeger 2017). For learners who are from low-income background or from poor areas, provision of such capitals can be insufficient for optimum learning opportunities. Gifted learners of poverty, including gifted readers, are more likely to become underachievers and are less likely to be identified for gifted programmes (Hamilton *et al.*, 2018). Thus, it is important for governments to consider

allocating educational resources equitably to areas of poverty to ensure optimum development of gifted learners, indeed, all learners.

2.2.4 Divergence and Convergence in Gagné's and Ziegler's work

The discussion of Gagné's and Ziegler's work provides differing views and emphasis on issues related to talent development. Gagné's and Ziegler's work have their roots in two approaches – the mechanistic approach – where consideration is given to the different components of the individual (Gagné) and the systemic approach where the system as well the individual's place within the system is considered (Ziegler). These different positions have implications for how gifted individuals are understood and identified, and how provision is made for them.

Gagné's work focuses on the cognitive interpretation of raw, inborn abilities through a range of environmental and intrapersonal factors in a talent developmental process that takes place over time and in which the influence of the environmental and intrapersonal factors can be both positive and negative on talent development of an individual (Gagné, 2010). Within Gagné's model, giftedness is the innate property of an individual. The role of the environment in this case is only in relation to how it interacts and impacts on the individual's gifts. Unlike Gagné's model, Ziegler's work suggests that rather than an individual trait or behaviour that resides within the individual, excellence is the product of the long and arduous interaction and adaptation between an individual and a whole complex system (Ziegler, 2005). The components of Ziegler's actiotope model interact and impact on the individual and the system and so it is these constant adaptations and complex interactions in and between both the individual and the environment that allow for the demonstration of giftedness. Thus, from Ziegler's perspective, there should be an emphasis on the system in order to understand the concept of giftedness and to develop practices within gifted education. It is how these different foci of the models affect educational practice that can inform planning and decision making for the needs of gifted individuals. Educational practices for gifted children are likely to be ineffective where the emphasis is on the gifted individual alone. However, the traits of the gifted individual and how these interact with the environment might also be a component when defining practice.

While Gagné's work emphasises inborn, natural ability as a decisive factor of a gifted individual and talent development, Ziegler's work does not emphasise this. Thus, in Gagné's work, if an individual cannot be identified as having gifted inborn ability through age and peer comparison at the beginning in a certain area, this individual then cannot be identified as a gifted and talented individual in that particular area. Dai (2017) argues that there is a lack of understanding that a young child is a changing and developmental individual when this stance is adopted. If this developmental aspect is accepted then in order for a child to demonstrate gifted abilities, and therefore be recognised as being gifted, they have to have appropriate experiences and opportunities to allow their gifts and abilities to come to the fore. If the environment denies them those opportunities, the abilities may remain hidden and thus a child would not be identified as gifted (VanTassel-Baska, 1998, 2005).

This view of inborn, natural ability in Gagné's work results in him arguing that identification of ability at an early stage is essential. According to Gagné, there is a need to use a metric-based approach (such as an IQ test) to identify gifted young children (Gagné, 2010). A cut-off point of 10% of similar age peers in a certain area is proposed by (Gagné, 2010). This cut-off point as discussed previously has long been criticised as simplifying giftedness and is fraught with difficulty. In contrast, the definition and identification of natural ability at an early stage is not a feature in Ziegler's model. Ziegler's AMG centres upon continuous assessment and provision. The goal of assessment in Ziegler's work is not for identification or labelling of an individual at an early stage but is seen as a way of providing better and more appropriate educational opportunities for an individual to achieve their learning goals. The need for, and potential of, continuous assessment in order to reflect the ability of the individual over time becomes important. This flexible view is in contrast to a more fixed notion that could result from an IQ score being given (Dweck, 2016; Dai, 2017). Thus, in Ziegler's work, sufficient learning and provision of educational resources that interact with the individual should result in contexts that allow gifted abilities to emerge. As discussed, according to Ziegler, the environmental and endogenous capitals are what contribute to high achievement, and thus Ziegler and his colleagues centre their work upon the influence of different kinds of capitals on talent development (Ziegler and Baker, 2013). Gagné refers to environmental catalysts (2010) and like Ziegler's model these are linked to educational investment along with the social values of teachers and society. In this study access to resources such as texts is crucial but access to texts is not enough as it is the values and understanding that teachers bring to the environment that will impact on the decisions about

provision and about how those texts are used within the classroom (Moon and Brighton, 2008).

Although Ziegler categorised his AMG into the systemic thinking and categorised Gagné's DMGT into mechanistic thinking, Gagné's DMGT also considers the complex interactions between each of the factors and thus also already goes beyond mechanistic thinking. There are other overlaps between these two models, such as the similar meaning of Ziegler's action repertoire and Gagné's idea of competence, and both address the importance of learning goals towards excellence. Indeed, there is an obscure borderline between what is so-called systemic thinking and mechanistic thinking because individuals and system are mutually influencing and interdependent. The significant divergence between Ziegler's and Gagné's work is whether talent should necessarily begin with inherited high abilities and whether education can compensate for their lack.

By conceptualising talent development, Ziegler's and Gagné's work present slightly different pathways towards excellence. Possibly, for diverse subjects and contexts, the situation is different. For example, an individual with inherited short height is very challenged in achieving excellence in the sport of volleyball (the DMGT can apply in this situation); however, as reading is a basic and important ability for children and adults, reading excellence and a habit for lifelong reading should be and is very likely to be achieved through appropriate instructions, a resource-rich environment and continuous endeavours (the AMG can apply in this situation). Furthermore, an emphasis on the context only denies the possibility of academic and career success of an individual who comes from poor, rural regions and a family with limited educational resources; an emphasis solely on natural abilities denies the possibility of academic and career success of an individual who has not been recognised as gifted in an IQ test. These two risks could contribute to decisions made by policy makers and educators.

The discussion of a range of views on giftedness from Section 2.2.1-2.2.3 implies that a definitive view of giftedness is unachievable among all researchers and educators. These diverse perspectives contribute to the understanding of giftedness and gifted education in different educational situations and political, historical, socio-cultural contexts. That there is

no single definition or conceptualisation of giftedness could be also reflected in practitioners' understanding of, for example, gifted reading ability. In spite of these different arguments and standpoints, Gagné's and Ziegler's work share a commonality namely that appropriate education is critical for the development of gifted individuals and this is a consistent theme across the two models. The study is concerned with the teachers' conceptualisation of gifted readers and how to provide for them, therefore drawing on this converging aspect of Ziegler and Gangé's work provided a framework for analysing the data gathered from the teachers in the study. It is one that recognises the importance of both the individual and the environment and wider society.

2.2.5 Teachers' Conceptualisations of Giftedness Internationally

This section explores literature in relation to teachers' personal conceptualisations for giftedness and talent development across countries and cultures and their coherence with, and discrepancy from, current research theories and models. Since there is no consensus for gifted research, as discussed in the beginning of Section 2.2, it is important to see how this is reflected in, and how it influences, gifted education in practice.

Teachers have been recognised as playing an indispensable role in gifted education, as their conceptualisation of gifted students will directly and largely influence their identification, their view of additional needs of gifted students and instruction processes (Dixon et al., 2014; Moon & Brighton 2008). Various researchers (see, for example, Rohrer 1995; Neumeister et al. 2007; Leavitt & Geake 2009; Jaffri 2012; Laine et al. 2016) from across different countries have examined whether teachers or pre-service teachers (student teachers) in their sociocultural contexts conceptualise gifted students in a way that corresponds to current theories and models in gifted education. Reflecting the lack of agreement in gifted research, teachers in different countries also have not come to a consensus in relation to gifted students. A recent study by Laine et al. (2016) on Finnish primary and secondary school teachers' perceptions of giftedness finds that teachers held the view that giftedness is diversified and involves cognitive, innovative and motivational factors differentiating the gifted from others. This study also indicates that in Finland some teachers saw giftedness as a developmental and malleable quality while others viewed it as a fixed quality (Laine *et al.*, 2016). This variation of teachers' views can be found in the work of Jaffri (2012) where she found that in Malaysia in-service teachers' and pre-service teachers' perceptions of giftedness and

talent are non-unitary concepts and can pertain to different domains, creativity and general intellectual abilities. There were also problematic issues for teachers' conceptions of gifted students. The study conducted by Neumeister et al. (2007) explores primary teachers' understanding and teaching of gifted minority students in the United States and indicates that their view regarding giftedness was relatively narrow and they more often identified giftedness by performance and ignored underachieving students due to cultural and background disadvantages. In addition, some USA teachers felt that giftedness involved a genetic component or being blessed by God, which implies a yes-or-no view (Kaya, 2015). Jaffri (2012) notes that a dearth of information regarding gifted education leads to teachers' lack of scientific understandings and knowledge to support gifted teachers. To address these issues, Leavitt and Geake (2009) note that teachers' conception of giftedness can be expanded by attending appropriate training programmes and in this way teachers are able to conduct more multi-dimensional identification and provision. These global findings imply that teachers have formed their own understanding about giftedness but training is still needed if the aim is to provide appropriate education for gifted readers.

2.3 Reading and Gifted Readers

The act of reading is a process of perceiving and constructing things, objects, issues and others through texts (Freire, 1983). It helps readers to understand themselves as well as the social world and enables them to think with imagination and logistics. Children develop in language, cognitive, affective and moral domains through reading (Harrison, 2004). Thus, every child in the classroom should be catered for in ways that develop their reading and literacy growth. There is a cohort of children whose needs cannot be satisfied by the grade-level reading curriculum. They demonstrate higher reading abilities than their same-age peers, they process information quickly, possess a large quantity of vocabulary and have higher order thinking abilities (Vosslamber, 2002; Halsted, 2009). These readers are conceptualised as gifted readers by various researchers (see, for example, Reis et al. 2004; Moore 2005; Sharp & Clemmer 2015).

To provide appropriate education for gifted readers, there is a need to understand them first. Thus, this section focuses on exploring the group referred to as gifted readers. It firstly

discusses reading and reading abilities. A review of literature regarding understanding of gifted readers is then provided. Finally, the discussion relates the theories and arguments in general gifted education to the specific domain of reading in order to understand the development of gifted readers.

2.3.1 Reading Abilities

Reading is a comprehensive and complex process. Kintsch and van Dijk (1978) construct that it is an integration and interaction of a bottom-up process that obtains information from the text and a top-down process that obtains information from the reader's prior experience. In this process, a wide range of linguistic and cognitive abilities are involved (Kendeou *et al.*, 2016). To make meaning from the text, as Hoover and Gough (1990) imply, firstly the reader needs to decode written words through using the full set of skills in phonology, orthography and semantics. Through linguistic comprehension, Hoover and Gough (1990) note that reader connects decoded words to understand successive sentences, paragraphs and the text structure. Also, readers integrate background knowledge and use reference and inference skills to dynamically construct their own cohesive mental representation. In addition to those basic language skills, the importance of higher order thinking abilities such as prediction and critical analysis in the reading process is highlighted by Rubin (2018). Xia (2001) conceptualises taxonomy for reading abilities (see Figure 2.3). Figure 2.3 shows that reading abilities range from basic language and literary skills, to general analysis, and on to higher order thinking and affective abilities. Xia (2001) suggests that children at each age can learn and use all types of reading abilities to different degrees. Many researchers (see, for example, Reis & Renzulli 1989; Vosslamber 2002; Moore 2005) point out that gifted readers are able to use higher order thinking skills more often than other readers to construct their own meaning of the text and in reading-related activities.

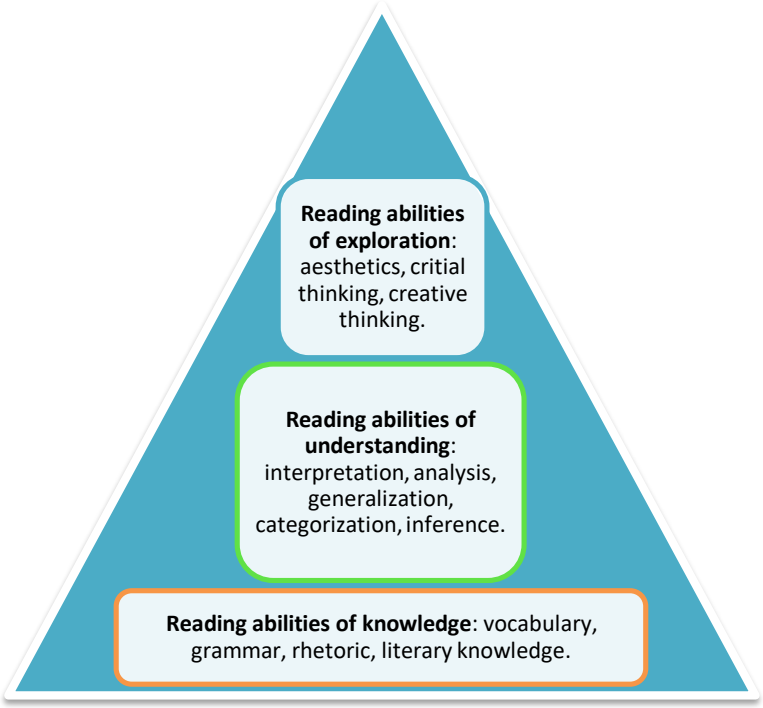


Figure 2. 3 Taxonomy of reading abilities, adapted from Xia (2001)

In addition to the cognitive and linguistic domain, many researchers argue that socio-affective factors also influence a reader's reading ability and thus play an integral role in reading development and achievement (see, for example, Anmarkrud & Bråten 2009; Lau 2009; Boakye & Southey 2011; Klauda & Guthrie 2015; Cockroft & Atkinson 2017). Motivation, for example, increases readers' engagement in reading and is a strong indicator of reading achievement (Klauda and Guthrie, 2015). Reading motivation relates to reading enjoyment, interests, pleasure and value for reading (Trautwein *et al.*, 2006; Guthrie and Ho, 2013).

Also, as one aspect of motivation, positive self-efficacy that enables readers to believe that they have capability to comprehend a challenging text also contributes to development of reading ability (Boakye and Southey, 2011). This implies that to assess or identify a gifted reader, educators need to consider not only their linguistic and cognitive abilities but also socio-affective characteristics. For effective instruction, educators should develop gifted readers, indeed all readers, in all cognitive, linguistic and socio-affective domains. Cockroft and Atkinson (2017) suggest that teachers could use texts that intrigue students' curiosity and interest and bridge the academic curriculum and students' real-life experiences. A mixture of easily comprehended texts and advanced texts could be used to increase students'

reading efficacy as well as provide challenging opportunities for students (Boakye and Southey, 2011).

Reading begins earlier than formal school education as children start to learn in the home. Preschool and education and literacy opportunities in the home can provide children with different experiences and consequently knowledge of literacy and reading. Hood et al. (2008) argue that these parental reading and teaching practices at an early stage positively influence the child's initial linguistic competence when they come to school. Factors such as the socioeconomic background of the family, migration background and family values construct and impact on the early literacy environment of a child (Niklas and Schneider, 2013). A child could be a learner of low reading ability due to insufficient reading resources at home, and a child could be precocious reader due to a reading resource-rich home environment. With children's diverse backgrounds and readiness, the issue of age and stage reading literacy is raised when they enter nursery and primary school. There is a need for educators to consider their readiness to provide an education that matches abilities and takes into account the children's early literacy environments.

2.3.2 Definitions and Characteristics of Gifted Readers

A teacher may assume that all gifted children are gifted readers, however these two terms are different because a gifted child may not be gifted at reading and a gifted reader may not be gifted in other areas (Jackson 1988; Reis et al. 2004). This is consistent with Gagné's (2004) construction of talents as, in his DMGT, talents (or competences) have their particular subjects or domains. Gifted readers are widely recognised as demonstrating advanced reading ability that differentiates them from their peers (see the definitions by Catron & Wingenbach 1986; Vosslamber 2002 etc. in Table 2.3). The degrees of advancement are different, ranging from above average, two-years above to exceptional. Table 2.3 presents definitions of gifted readers from previous studies (arranged according to publication year):

Reference	Definition of Gifted Readers
Vosslamber (2002: 15)	"The gifted reader is one who evidences the three aspects of giftedness that Renzulli proposes (above-average ability, task commitment, and creativity) in the area of reading".

Mason and Au (1990, cited in Reis et al., 2001: 12)	Gifted readers are "children who have exceptional reading ability and the capacity to understand text information well above what would be expected of a person for that age".
Catron and Wingenbach (1986: 134)	"Gifted readers are defined as students who have been identified both as gifted and as reading on a level two or more years beyond their chronological grade placement".
Dole and Adams (1983: 66)	Gifted readers are "children who are reading approximately two or more years above grade level as measured by a standardized reading test, or children who may not have achieved two or more years above grade level on a standardized reading test, but who have been identified as intellectually gifted with potential for high reading performance".
Bonds and Bonds (1980, cited in Bonds & Bonds 1983: 4)	Primary gifted readers are "children who, upon entering first grade, are reading substantially above grade level or who possess the ability to make rapid progress in reading when given proper instruction".

Table 2. 3 Definitions of gifted readers

Definitions by some researchers (see, for example, Catron & Wingenbach, 1986; Mason & Au, 1990, cited in Reis et al., 2001; Vosslamber, 2002) are derived from a description of outstanding performances of gifted readers. However, underachieving gifted readers who cannot demonstrate high performances might be ignored by these performance-oriented definitions. The phenomenon of underachieving gifted learners can be partly explained by Gagné's (2013) developmental view of giftedness and Ziegler and Phillipson's (2012) AMG as both of them indicate that underachieving giftedness would occur if there is a lack of educational support from the environment. Therefore, to identify and instruct gifted readers, there is a need for educators to consider both performance and potential as two important dimensions.

Characteristics of gifted readers are distributed from the knowledge level to the understanding and exploration level as conceptualised in Xia's (2001) taxonomy of reading abilities. In the knowledge level of reading abilities, researchers (see, for example, Bonds & Bonds 1983; Vosslamber 2002) suggest that gifted readers read above average level, use expansive vocabulary and learn and apply grammar quickly, and have a larger quantity of literary knowledge than the norm. At the understanding level, research (Fehrenbach 1991; Fehrenbach 1994; Reis et al., 2004) suggest that gifted readers more often utilise higher-

order thinking strategies such as making intertextual links, analysis, evaluation, anticipation, inferring and integrating prior knowledge to understand texts. At the exploration level, researchers (Vosslamber, 2002; Sharp and Clemmer, 2015) suggest that gifted readers can deeply appreciate the beauty of reading, read with enjoyment, think more divergently and creatively and produce original ideas to respond to the reading texts. Some characteristics of gifted readers also relate to socio-affective domains, such as displaying task commitment, showing empathy to characters and possessing motivation (Reis *et al.*, 2004; Simpson, 2017). As discussed in Section 2.3.1, along with the linguistic and cognitive process, the socio-affective process is critical for reading development and strong predictors for reading achievement. Thus, it is important to understand characteristics and behaviours of gifted readers from all domains.

Ziegler and Phillipson (2012) and Dai (2017) argue that the development of gifted learners is unstable and dynamic. This indicates that when teachers attempt to identify gifted readers in terms of these characteristics, there should be more awareness that learners' demonstration of these characteristics is not static but changing. There needs to be continuous and flexible identification and assessment to respond to the changing performances of all readers.

2.4 Classroom Organisation for Supporting Gifted Readers

As previously discussed (see Section 2.2), Gagné's DMGT and Ziegler's systemic thinking and AMG all highlight the importance of education in the continuous development of gifted learners. By including environmental variables and individual variables in the DMGT and AMG, the development of gifted individuals is implied to be fluid, dynamic and unstable, which means that the development can be facilitated or impeded depending on the interaction of gifted individuals and the environment (Gagné, 2010; Ziegler and Phillipson, 2012). This indicates that gifted readers need a supportive environment that involves continuous formal or informal reading education to develop their reading abilities (Brighton *et al.*, 2015). As children are entitled to receive formal literacy education in schools in almost every country, schools should play a key role in developing the critical curriculum domain of reading (Cross and Coleman, 2014). Reading ability of children can develop when schools provide appropriate learning opportunities. In the contrary case, the development of reading ability

will be negatively impacted if readers are inappropriately instructed (Sharp and Clemmer, 2015). Thus, there is a need for teachers to consider how to effectively and systematically develop all readers, including gifted readers.

2.4.1 Class Pedagogical Approaches

Some pedagogical structures and strategies are considered to be effective for developing gifted learners in subject areas that include reading (Sharp & Clemmer 2015; Steenbergen-Hu et al. 2016). This section provides a review of research-based organisational approaches that can be used in mainstream classroom teaching to address the needs of gifted learners across the curriculum. It also specifically discusses how these approaches can be appropriately used in teaching gifted readers. Current researchers, especially, stress that differentiation, for example, should be an integral part of contemporary classrooms and an indicator for quality teaching because it can provide challenging learning opportunities to all diverse learners (Tomlinson, 2014). Sharp and Clemmer (2015) argue that instruction of gifted readers needs to be differentiated in order to respond to their learning ability and interests. Thus, this section starts with a discussion of differentiation. The approaches of enrichment, acceleration, grouping and mentoring are then explored as they are considered as effective approaches to develop gifted learners (see, for example, Grassinger et al. 2010; Steenbergen-Hu et al. 2016; Simpson 2017).

2.4.1.1 Differentiation

Differentiation is an important approach for regular class teachers to appropriately develop a wide spectrum of students and is recognised by various researchers (see, for example, Tomlinson et al. 2003; De Corte 2013; Weber et al. 2013; Altintas & Özdemir 2015; VanTassel-Baska 2017). Through differentiation, the curriculum can be accessed by students in various ways and pace depending on their readiness and learning modes (Sisk, 2009). Possibly differentiation is the most widely used teaching strategy because other strategies such as acceleration, enrichment or grouping all involve differentiating learning opportunities for learners to some degree. Differentiation does not mean more assignments or activities for gifted readers. Rather, it means different and appropriate instructions and content for diverse learners. It is constructed as:

> "an approach to teaching in which teachers proactively modify curricula, teaching methods, resources, learning activities, and student products to address the diverse needs of individual students and small groups of students to maximize the learning opportunity for each student in a classroom".
>
> (Tomlinson et al. 2003: 121)

To develop effective differentiation, teachers need to take account of learners' various academic levels, interests, characteristics and motivations. Learning environment, content, learning process and product should be differentiated (Maker, 1982; Tomlinson, 2014), and differentiation should involve proactive modification, small-sized groups, learner-centred teaching and ongoing assessment (Tomlinson, 2001; VanTassel-Baska, 2017). Figure 2.4 presents Tomlinson's (2001; 2014) framework for teachers to differentiate in the classroom.

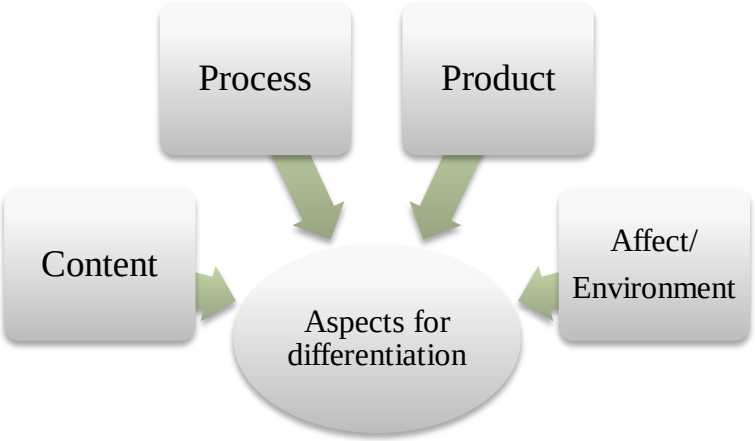


Figure 2. 4 Teachers' differentiation strategies

In teaching gifted readers, according to this framework, teachers can modify the concepts, information or topics that are addressed through a reading text, design different learning reading activities, be flexible in setting the learning pace, and differentiate assignments or final products so that gifted readers can demonstrate their achievement. Teachers also can create a reading environment which encourages independent reading and mutual help for reading growth and can value individual differences and both the success and the failure of any reading task. This is supported by Moore (2005) and Sharp and Clemmer (2015) who argue that reading materials, ways of learning, learning pace and process can all be differentiated within the regular classroom to meet the instructional needs of gifted readers.

Although differentiation is supported by research, in practice teachers may face great challenges to implement this approach to meet the diverse needs of all students (Tomlinson, 2014). Students in mainstream classrooms may present with disabilities, diverse characteristics and different levels of knowledge and ability. It requires a large amount of time, professional skills and suitable physical environments to design activities and modify resources (Dixon et al., 2014). Teachers firstly need to understand students' backgrounds, learning readiness and learning modes and interests well in order to be flexible and proactively differentiate and address their needs responsively. Teachers also need to trace and assess students' development and differentiate accordingly. This needs professional development opportunities that can provide theory as well as practice on differentiation, and it also needs support from the whole school in terms of sufficient resources, class-size reduction and collaboration between teachers, support personnel and management team (Dixon et al., 2014; Roiha, 2014). Thus, it would be out of the control of an individual teacher to implement differentiation in the education system when there are insufficient educational resources, over-crowded class and heavy workload.

2.4.1.2 Enrichment

Enrichment is suggested as widely as differentiation among researchers and practitioners to accommodate general gifted students (Schiever & Maker 2003; Kim 2016). In teaching reading, researchers (see, for example, Reis & Renzulli 1989; Wood 2008; Simpson 2017) note that enrichment provides various reading materials outside of the regular curriculum and encourages inquiry reading and creative reading based on gifted readers' interests and personal choices. In a meta-analysis of 26 gifted programmes with an enrichment component, Kim (2016) found that generally these programmes had a positive impact on gifted individuals in terms of both academic attainment and socio-affective development. As distinct from acceleration, enrichment emphasises the breadth and depth of learning rather than learning at a faster pace. Enrichment aims to keep gifted children learning with their same-aged peers but in the meantime provide gifted children higher cognitive learning opportunities (Coleman and Cross, 2005). Thus, this approach could promote an inclusive culture in the classroom.

The Enrichment Triad Model developed by Renzulli (1977) and the Schoolwide Enrichment Model developed by Renzulli and Reis (1985; 1997) in the U.S.A. focus on developing talents of all children, including gifted children, through providing enriched, advanced and high-thinking level learning experiences in all areas. Informed by these two models, Reis et al. (2002; 2008) constructed the Schoolwide Enrichment Model–Reading (SEM-R) to meet the needs of children of different levels and backgrounds in the domain of reading specifically. SEM-R proposes three stages for enrichment (adapted from Reis et al. 2008) :

- Through reading aloud for a selected excerpt of a text each day and posing simulating questions, teachers expose students to a wide range of literature and high-order thinking.
- Stage 2 emphasises children's reading autonomy. Children's reading autonomy is developed through an independent reading programme in which children read texts that can challenge them and teachers provide individualised reading instructions and organise reading seminars.
- The last stage targets reading development of children through authentic reading programmes. In particular, it provides many opportunities for gifted readers as it suggests free choice and independence for reading texts, exploration of texts through technology, collaborative reading, creative writing and group discussions.

SEM-R addresses children's reading enjoyment and pleasure. As discussed in Section 2.3.1, the socio-affective domain plays an integral part in children's reading development (Boakye & Southey 2011; Klauda & Guthrie 2015) and thus educators should provide texts and design reading activities that can motivate and interest children. Reis et al. (2011) point out that differentiation should be integrated into SEM-R through small group teaching as this teaching approach is sometimes more effective than whole group teaching with less differentiation. In a study of eight primary schools, Shaunessy-Dedrick et al. (2015) also evidence that this enrichment approach involving differentiation is significantly effective in increasing reading achievement of all primary school children. It is thus important for educators to enrich and differentiate for all readers, including gifted readers.

2.4.1.3 Acceleration

Acceleration is a pedagogical approach that enables gifted students to "progress through an educational program at rates faster or at ages younger than conventional" (Pressey 1949: 2). According to Southern and Jones (2004), there are many types of acceleration that can be adopted depending on different situations from nursery school education to higher education. This might include early admission, early graduation, grade-skipping, mixed-ages class, curriculum compacting, extracurricular programmes and subject-matter acceleration. Those acceleration approaches that generally place students in the same-age grade, including subject-matter acceleration, curriculum compacting and self-paced instruction, are especially suitable to develop students who are gifted only at a specific subject (e.g. reading and language arts). Indeed, acceleration enables educators to group students into appropriate learning stages based on their abilities rather than their ages.

Compared to differentiation and enrichment, acceleration is a more controversial issue. Colangelo et al. (2004) and Colangelo et al. (2010) argue that carefully considered grade-based and content-based acceleration has been consistently proven to facilitate the development of gifted students in both academic and socio-emotional domains. The meta-analysis of Steenbergen-Hu et al. (2016) of one hundred years of research regarding the effects of acceleration shows that this approach enables learners to significantly outperform their classmates who do not accelerate. This was also found by McClarty (2015) who evidences much higher achievement of accelerated students compared to their non-accelerated peers. She explains further that one reason for this is that acceleration might motivate learners to engage in additional and post acceleration educational opportunities and in this case the effects of acceleration can be amplified (McClarty, 2015). This might imply that gifted readers could be significantly benefitted from grade-based acceleration and challenged reading resources contribute to learning motivation of gifted readers.

Indeed, acceleration is suggested for gifted readers in order to suit their learning pace and actual ability level rather than their grade placement (Levande 1999; Vosslamber 2002; Simpson 2017). Reis et al. (2008) find that gifted readers benefit from enrichment and acceleration such as curriculum compacting in terms of their reading fluency and comprehension in the SEM-R program. For grade-based acceleration, through studying a large number of grade-skippers regarding language development, Gronostaj et al. (2016)

note that these grade-skippers performed with the same ability as their same-grade group and outperformed their same-aged, one grade lower and equally gifted group. Although there is concern that gifted literacy grade-skippers would soon catch up with and outperform their new classmates and thus get bored and unchallenged again, Gronostaj et al. (2016) suggest that educators could combine other approaches such as enrichment and ability grouping with acceleration to continuously provide challenging educational opportunities.

On the contrary, many researchers (see, for example, Robinson 2004; Arens & Watermann 2015; Dare & Nowicki 2018) express concern about acceleration in relation to its social-emotional and motivational effects for gifted students. In a study of gifted students' early entrance to secondary school, Arens and Watermann (2015) find that, in the long term, the academic self-concept of gifted students is lower than their same-aged gifted peers who remain in the primary school. Lower academic self-concept would impede students' academic outcomes and motivation (Marsh and Craven, 2006). Further, negative effects of acceleration on grade-skippers' psychosocial development, including peer relations and motivational outcomes especially for girls, are identified by Kretschmann et al. (2016). For content-based acceleration, Steenbergen-Hu et al.'s (2016) meta-analysis of 38 primary studies suggests that generally there is no significant difference between two general types of acceleration (grade-based and content-based) regarding gifted students' academic and socio-emotional development. Thus, it is important for practitioners to consider carefully the social-emotional effects when acceleration is used for addressing the academic ability of gifted students.

Indeed, Wood et al. (2010) and Rambo and McCoach (2012) argue that the negative impact of acceleration increases resistance of school practitioners to consider acceleration for gifted students. For grade-based acceleration, teachers are concerned that when placed in an older-age class, gifted students might experience inferiority due to their small physical size, social pressure and difficulty of being included in the new environment due to their permanent age difference from their classmates (Gross and van Vliet, 2005). However, Kretschmann et al. (2016) point out that the effects of acceleration vary for students because their ability for adjustment, degree of maturity, motivation and social skills are all different. Thus educators need to consider gifted students' psychosocial characteristics and comprehensively decide whether it is suitable to place them into an acceleration programme and what strategies can

be taken to facilitate their socioemotional development. Dare and Nowicki (2018) argue that inclusive strategies such as grouping strategies, collaborative activities and work, and invitations from other students can help accelerated students to overcome social/ emotional difficulties.

In relation to reading, acceleration might include being accelerated through a reading scheme or it might mean that texts are allocated according to complexity rather than age. This can be problematic in terms of content as some texts may not be suitable for the young person to read (Halsted, 2009). To continuously support reading development of gifted readers, the question is not whether teachers should adopt an acceleration approach, rather it is what form of acceleration will be applied to gifted readers and what strategies can be combined with acceleration to address the academic and socioemotional needs of gifted readers that may arise from acceleration.

2.4.1.4 Grouping Strategies

Grouping has been widely used in mainstream classroom practice and recognised as a key strategy by a variety of researchers to meet the learning needs of students of different levels as well as to promote collaboration between students (see, for example, Rogers 1993; Winebrenner 2001; VanTassel-Baska & Stambaugh 2005; Gentry 2014; Steenbergen-Hu et al. 2016). Differentiated instructions, enriched materials and accelerated knowledge can be integrated into different groups by trained teachers (Rogers 1993; Brulles et al. 2010). Lou et al. (1996) note that children can learn more when placed in small-size groups than through whole-class instruction. As an important organisation structure, appropriate grouping benefits gifted readers' deep thinking, academic growth, motivations and socio-affective ability in literacy development (Smith and Arthur-Kelly, 2016; Simpson, 2017). Grouping strategies can be categorised into ability grouping (or homogenous grouping) and mixed-ability grouping (or heterogeneous grouping). For the whole class, including gifted readers, each type of grouping can address some different perspectives in students' academic and socio-affective development. The next paragraphs discuss issues regarding these grouping types.

Ability grouping refers to "some means of grouping students for instruction by ability or achievement so as to reduce their heterogeneity" (Slavin 1987: 294). Teachers can group students on the basis of their overall abilities independent of grades and ages (known as streaming in the U.K.) (Boaler *et al.*, 2000); or teachers can group students within the mainstream classroom based on students' abilities in a specific content area such as literacy or reading, and students might be grouped again and differently for another domain.

Streaming is supported by Hanushek and Woessmann (2006) who demonstrate that learners can be grouped according to their achievements and teachers can provide more appropriate instruction and adjust the pace to suit everyone in this homogeneous class. However, streaming is a very contentious practice and it has been criticised by various researchers (see, for example, Jackson 1964; Lunn & Ferri 1970; Macqueen 2013). A study carried out by Parsons and Hallam (2014) to investigate streaming and academic achievement of 19,000 children in primary schools around the U.K. evidences that while children in streamed-schools who were allocated to the top stream achieved significantly more than their counterparts in non-streamed schools, children in streamed-schools who were allocated to the middle and bottom stream achieved much less than their counterparts in non-streamed schools. It can be seen that streaming cannot raise attainment for all children, and it only benefits a small proportion of children. In a school with highly-structured ability grouping, the middle and bottom streamed pupils would experience lower aspirations and expectations of teacher, pupil and parent (Hallam *et al.*, 2004) and a lack of role modelling from high achieving peers (De Fraine *et al.*, 2003). Thus streaming would also widen the attainment gap and early grouping of children would also increase early social segregation (Green *et al.*, 2006).

For the domain of reading, the cross-country research of Chiu et al. (2017) regarding reading development of primary school students shows that reading attainment of higher-level readers can be promoted through not only grouping competent readers together but also through mixed-ability grouping that can create opportunities for helping other pupils. Indeed, in the process of helping others, higher-level students need to elaborate and express themselves clearly and logically, which is also a challenging opportunity to learn and obtain additional and more systematic knowledge (Blatchford *et al.*, 2016). Meanwhile, lower-level readers benefit through collaborating with readers of higher level and better reading attitudes

in the primary classroom (Chiu *et al.*, 2017). Working within a mixed-ability group also helps each student to understand difference and diversity and to acquire cooperation skills. Yet, there are also many studies showing more academic achievement and more positive socio-affective development of gifted students in homogeneous groups rather than in mixed-ability groups (see, for example, Lou et al. 1996; Preckel et al. 2010; Adodo & Agbayewa 2011). Preckel et al. (2010) argue that ability grouping could provide more challenging opportunities than mixed-ability grouping thus decreasing boredom and facilitating academic growth for gifted students. This is supported by Adodo and Agbayewa (2011) who also add that ability grouping can benefit the interest and attitudes of all students due to more appropriate instruction that each student can receive. Given that there is no consensus on ability grouping and mixed-ability grouping, possibly school educators should consider using both flexibly to address the advantages and disadvantages of ability and mixed-ability grouping. In a regular class, the teacher's flexible use of both grouping strategies can create opportunities for gifted readers to learn together supported by appropriate customised instruction and high-level, challenging materials. This could also allow readers of different levels to learn from and influence each other in a mixed-ability group.

2.4.1.5 Mentoring Gifted Readers

Grassinger et al., (2010) and Stoeger et al., (2017) point out that the pedagogical approach of mentoring is very effective in supporting gifted learners however it has long been neglected in gifted education. One-to-one relationships between a gifted pupil and a mentor are built through mentoring programmes, and the mentor can promote the pupil's optimal learning through highly individualised instruction (Grassinger *et al.*, 2010). The mentor can assess any progress, give timely feedback, and plan tailored learning materials and instructions according to the pupil's needs. For gifted readers, mentors can be a teacher, a higher-grade student, a parent, a librarian or a professional community member specialising in language arts (Halsted, 2009). However, sometimes offline mentoring can be challenging when financial and educational resources are limited. In this case, online mentoring could be a choice, as it saves the time otherwise taken for mentors and mentees to travel to meet and it expands the scope of choosing a mentor (Bisland, 2001; Stoeger *et al.*, 2017). A gifted reader can communicate with his/ her mentor online through email, WeChat, Skype and sharing website links in relation to various forms of reading including e-books, news and blogs.

2.4.2 Provision to Develop Gifted Readers

Section 2.3 discussed that a range of higher-order thinking processes, such as creative thinking, critical thinking and imagination, are all involved in the reading process of gifted readers. Thus, for teaching reading for gifted readers, there is a need for teachers to focus more on their re-creation process and related higher-order abilities. Furthermore, both Gagné's (2010) DMGT and Ziegler and Phillipson's (2012) AMG argue that an individual develops through environmental catalysts or dynamic interaction with the environment, in which learning resources, teachers and special programmes play an integral part. For the domain of reading, the literature suggests that gifted readers need challenging reading materials and they also need less repetitive, more enriched, fast-paced, and open-ended instructions that can stimulate higher order thinking and allow more independence for gifted readers to explore (see Trezise 1977; Bonds & Bonds 1983; Moore 2005; Wood 2008; Sharp & Clemmer 2015; Bannister-Tyrrell 2017). This section focuses on how these aspects can be addressed through appropriate teaching resources and programmes.

2.4.2.1 Using Children's Literature to Develop Gifted Readers

Children's literature is one rich resource for the learning and teaching of literacy and reading for gifted readers, indeed, all children. Literature, just like other forms of art, is a way for humans to understand the world, express themselves, sympathise and communicate with others. It is a need that arises from the deepest part inside a human, whether they are a child or adult. There is no consensus on how to define children's literature among researchers (Wang and Zhao, 2006) however, in this research, children's literature is understood as literary texts that are suitable for children to read. Nodelman and Reimer (2003: 25-26) identify several kinds of pleasures of children's literature, such as "the pleasure of having one's emotions evoked", "the pleasure of escape" and "the pleasure of sharing experiences of literature". By reading children's literature, children experience the pleasure that is in affinity with their inner needs. Wang and Zhao (2006) argue that literature education shares components across educational aims in many countries, such as affection, values, abilities, and knowledge, and thus should play a key role in education. Also, children's literature has the potential to create a space for dealing with key educational issues, such as critical and creative thinking, culture, multimodality and digital texts (Winch *et al.*, 2006). Through using children's literature in reading, teachers can promote the linguistic, cognitive and socio-emotional development of gifted readers and other readers (Halsted, 2009). It is

therefore important for practitioners to use children's literature for all learners' growth in the classroom.

Children's literature has different levels of language complexity and contains a wide range of topics that are suitable for children of different maturity levels. These topics could include animals, colours and numbers that might be suitable for children with lower language ability and maturity levels (Halsted, 2009). These topics could also be death of a family member, war and romance written in texts of complex language. These texts might be more suitable for children who are able to comprehend complex language and are more mature. When a child's age and stage in reading do not match, which is often the case for gifted readers (see definitions and characteristics of gifted readers in Section 2.3.2), a teacher can always source texts with appropriate topics and language complexity from children's literature to suit the child's reading level and to really interest them.

In the meantime, important abilities, such as higher level ability to appreciate aesthetic things, critical thinking ability and creative thinking ability, can be cultivated for all children, including gifted readers, through children's literature (Halsted, 2009; Waugh *et al.*, 2013). While these higher order abilities are intertwined with the increase of a basic understanding of literature itself, gifted readers have more potential to achieve at this level as less time to learning decoding skills is needed by them (Durkin, 1981; Simpson, 2017). To address the high-order thinking, language level and interests of gifted readers, children's literature could be used in a range of strategies and programmes for teaching reading. This is discussed in the next sections.

2.4.2.2 Use of ICT Resources and Digital Texts for Reading

Sargeant (2015) argues that digital texts are likely to become an important source in the classroom for enriching and extending the reading experience of all readers. Reading, as a social activity, never stands alone, but rather always connects to the whole development and every aspect of human society. The content of texts reflects the life of societies and of individuals; the media of texts is built on technological inventions, for example people no longer needed to write on stones, bones or bamboo after the invention of papermaking that made recording more convenient. The printing press profoundly influenced the handcrafted

book (Eisenstein, 2011). Just as the widespread use of paper-based texts has done, the digital text will also have a significant impact on people's daily reading behaviour (Sargeant, 2015). It will also affect literacy education as in-school literacy education should respond to the students' literacy experience outside of school (Serafini and Youngs, 2013). Indeed, there is a mushrooming of children as consumers reading books on their digital devices (McLean and Kulo, 2013) and their habit of reading is changing from a print-based mode to a coexisting mode of print-based and screen-based. With the support of ICT (Information and Communication Technology), the notion of literacy nowadays has expanded from single written or visual mode to a multimode which might involve audio, animation or hypertextual links. Readers at all levels in the 21st century will need more comprehensive abilities to decode, re-construct and make use of these digital texts (Jewitt, 2008; Ng and Graham, 2017).

Therefore, there is a need for educators to take advantage of ICT resources in the classroom. Such resources can provide access to digital texts and facilitate independent researching opportunities for all readers, including gifted readers. Critical thinking, which should be a particular teaching focus for gifted readers, as discussed in Section 2.4.2.5, can be fostered through use of ICT as gifted readers can easily search multiple perspectives on a text and authentic issues online (Gainer, 2013). As previously mentioned, gifted readers read above the average level, process information quickly, show great curiosity and present higher order thinking in reading activities, and their learning needs cannot be satisfied by knowledge in standardised literacy textbooks. In addition, Ziegler and Stoeger (2017) argue that educational resources are critical for talent development. Thus, for gifted readers, ICT resources, as one kind of educational capital and resources, should play an integral part in enriching the literacy environment and further promoting multimodal reading ability development (Weber & Cavanaugh 2006; Sharp & Clemmer 2015). Gifted readers can build their own individualised reading pathway through gaining access to a variety of texts and authentic reading topics with ICT support.

However, practitioners may show unwillingness to use new technologies or not fully engage in digital texts for literacy and reading provision (Apperley and Walsh, 2012). There are a range of barriers that could explain this. For teachers, barriers could be time and access (Holloway and Valentine, 2003), insufficient knowledge and ability to engage in digital environments in a creative and challenging way (Honan, 2010), and the gap between "digital

native" students and their "digital immigrant" teachers (Prensky, 2001). Weber and Cavanaugh (2006) point out that a lack of use of digital reading resources would impede teachers' provision of reading and learning opportunities for gifted readers and also other readers. Thus, although barriers do exist, the shared endeavour of key educational stakeholders to promote ICT reading resources into the classroom to fully support the optimal reading development of all children will be required.

2.4.2.3 A Balance between Textbooks and Trade Books

There has long been concern among researchers about the choice between the use of textbooks and trade books for reading instruction (see, for example, Baumann & Heubach 1996; Issitt 2004; Dewitz & Jones 2013). Reading materials are important when teachers instruct children in the classroom. When standardised textbooks are used for reading, this requires additional consideration for gifted readers. Gifted readers need texts with elements that can continuously challenge their ability and increase their motivation (Austin, 2003). Teachers need to choose reading materials that contain appropriate content and topics for the age and actual ability of gifted readers; teachers also need to ensure sufficient supply and access to appropriate reading materials. VanTassel-Baska (1998) points out that traditional basal readers/ textbooks focus more on developing basic reading skills of children such as phonics, rather than a deep understanding and interaction with literature. It is challenging for teachers to balance time between textbooks and trade books to really enrich and extend all children's reading experience. Particularly for gifted readers, care should be taken by teachers to consider whether instructional time is spent on textbooks or, if it is, whether the whole content or just part of the content of textbooks should be used, and how to differentiate textbook-based reading activities to suit the needs of gifted readers.

Studies indicate that there is wide usage of textbooks in schools around the world (Gao 2002; Issitt 2004; Bartošová et al. 2015; Reichenberg & Andreassen 2017). Issitt (2004) argues that textbooks can provide an empirically researched, basic knowledge foundation for learners. The organised units of knowledge in textbooks offer learners a pattern that can be easily followed. For the teaching of literacy, textbooks provide teachers with an introduction to quality children's literature and a systematic, organised plan for teaching reading and writing (Greenlaw, 1990). Also, by referring to, but not being limited to textbooks, teachers are not deskilled but rather informed by textbooks with a pick-and-choose approach that

enables teachers to adapt and extend teaching plans (Baumann and Heubach, 1996). Although literacy textbooks are important in children's literacy and reading development, real children's books also play an integral role due to the limitations of textbooks (Tunnell and Jacobs, 1989; Reis *et al.*, 2004; Dewitz and Jones, 2013). Chambliss and Calfee (1998) argue that basal programmes focus on unchanging, repetitive routines and thus fail to inspire new ideas and independent readers. Gifted learners would be disengaged if always taught with textbooks that often only address grade-appropriate knowledge instead of also providing challenging content. In addition, by changing, reducing and compacting the content of original texts, textbooks can impede the reading experiences of gifted readers, indeed all readers, in terms of their reading pleasure and aesthetic needs (Reutzel and Larsen, 1995). The fierce debate between textbooks and trade books, however, only strongly highlights their importance and different purposes in the long-term development of children's reading abilities. Thus, practitioners need to pay special attention to the question of how to balance the use of textbooks and trade books to effectively challenge and benefit their gifted readers in the classroom.

2.4.2.4 Independent Reading and Learning

There is an extensive research base to support independent learning as an important practice for all students, especially for gifted students (see, for example, Moore 1973; Treffinger 1993; Deur 2011; Stoeger et al. 2015; Westberg & Leppien 2018). The development of talent in a specific domain needs self-regulated abilities to independently and persistently utilise resources and methods, which can be systematically taught at a very early age (Stoeger, Sontag, *et al.*, 2014). As discussed in Section 2.4.1.2, to develop all children as readers, Stage 2 and Stage 3 in the SEM-R of Reis et al. (2002) emphasise the significance of independent reading and learning opportunities. These opportunities stimulate authentic inquiry through independent investigations and strengthen learners' motivation, attitude and self-efficacy (Westberg and Leppien, 2018). Through self-directed reading, interests and learning modes of gifted readers can be accommodated and gifted readers can become knowledge producers rather than only knowledge recipients (Wood, 2008).

Often, independent learning can be integrated into ability grouping. In this way the group of gifted readers can differentiate, enrich, accelerate learning and build new knowledge for themselves under appropriate support from teachers. By conducting independent reading and

learning projects, gifted readers are provided with time and space to create their individualised learning pathways. Kaplan (2017) suggests that teachers should focus on improving the learn-to-learn abilities of students so that they can differentiate and learn independently through every possible learning opportunity. Gifted readers would become life-long, autonomous readers and learners if they are engaged in more independent learn-to-read and read-to-learn opportunities. Indeed, this should be a goal of education in this fast developing time that requires an ability to learn quickly and adjust to the ever-changing environment.

2.4.2.5 Fostering Critical Literacy

Critical literacy enables people to think critically and from multi-perspectives in relation to an issue. Freire (1972) argues that social justice can be promoted through critical literacy education as those who are affected by inequality can have the ability to question, reflect, rethink the world and stop taking everything for granted. Critical literacy also stimulates people to challenge the current situation and reconstruct individual and social development (Shor, 1999). Therefore, it is important for all readers, including gifted readers, to be frequently involved in this thinking process to foster their critical literacy (Sharp & Clemmer 2015; Bannister-Tyrrell 2017).

In reading a text, readers should learn to critically think about the intent of the author in writing this text, the context, power ideologies and how the topic can be accessed through diverse perspectives different from that of the author (McLaughlin & DeVoogd 2004; Janks 2010). Bannister-Tyrrell (2017) points out that high cognitive thinking of primary gifted readers can be promoted through critical literacy and this prepares them for later education. In the classroom, teachers should regard students as “researchers of languages” rather than knowledge recipients, with respect for the cultural diversity of students and the openness to problematise texts (Comber 2015: 363). Teachers should also create an environment in which all children feel comfortable and are encouraged to raise questions, share diverse views and reflect frequently.

2.4.2.6 Cultivating Creative Reading

As previously discussed (see Section 2.3), gifted readers demonstrate higher order thinking abilities among which creativity is one that is very important. Gleeson (2014: 1) defines creativity as engaging "curiosity, playing with ideas, challenging accepted views, imagining alternatives and experimenting". Setting creativity as a goal of education helps pupils to actively push the knowledge and ability boundary forward. Gamble (2013) argues that reading and thinking should be viewed as creative arts, as the process of reading involves creating and imagining based on the original text. A wide variety of research (see, for example, Labuda 1974; Vosslamber 2002; Simpson 2017) argues that it is important to address creativity development of gifted readers, and thus there is a need for teachers to provide creative reading programmes, activities and environments for gifted readers for their reading growth. All learners, including gifted learners, may feel unmotivated and lack interest when they are always involved in repetitive teaching and learning that lacks creative thinking (Piske *et al.*, 2014).

Creative reading includes synthesis, inference, extension, divergent prediction, and imagination in order to create original products such as continuous writing, visual arts and dramatising the plot based on the original text (Boothby, 1980). Gamble (2013: 39) further notes that products of creative reading can be "the dialogue between readers, the responses kept in reading journals, and the shifts in thinking that occur when the mind engages with a text that challenges preconceptions or confirms a provisionally held idea." It seems that creative thinking is involved in the whole process of meaning making for text and reading-related activities. Both gifted and non-gifted pupils could be provided with opportunities for creative thinking through reading, however the difference is that time spent on learning basic decoding skills and higher level thinking should be flexible depending on each pupil's language level and learning pace.

Saccardi (2014) points out that children's literature plays a pivotal role to promote all readers' creativity and divergent thinking in the classroom. Literature engages children in stories that consist of a variety of literary, scientific, social, geographical, artistic, historic knowledge, which can stimulate children's creativity to a large extent (Mcmillan and Gentile, 1988). The creativity that the author possesses to create characters, plots and ways to solve problems can also influence children to think divergently in the real world. It is therefore important

that teachers can utilise children's literature in their creative reading programmes to support the, affective and cognitive development of all children, including gifted readers.

2.5 Conclusion

This chapter has critically explored research literature in relation to giftedness, gifted readers and how teachers can nurture gifted readers. It would appear that innate ability contributes to reading ability development but of more importance is nurture. This also indicates that the development of gifted reading ability is fluid and unstable, and the education environment can both positively and negatively influence reading development. As reading is a critical curriculum domain, schools and teachers play a key role in developing gifted readers. This serves as the theoretical foundation for the focus of this research: teachers need to appropriately cater for gifted readers so that they can be provided with optimum learning experiences and develop their reading abilities in the classroom. Teachers could use pedagogical and organisational approaches such as differentiation, enrichment, acceleration, grouping and mentoring to meet the needs of gifted readers. Teachers also need to provide appropriate texts that match the language level, enrich and extend the reading experiences of gifted readers.

The following chapter contextualises this research by discussing issues in relation to nurturing gifted readers in the specific sociocultural contexts in China and Scotland in order to understand how theories and research discussed in this chapter are transferred in actual practice in Chinese and Scottish education systems.

Chapter 3 Education Systems and Teaching Gifted Readers in China and Scotland

3.1 Introduction

To set the overall research scene, Chapter 1 presented school provision for gifted readers within the general international, and the specific Chinese and Scottish contexts of gifted education. These research contexts contribute to the understanding of the experiences of teachers in relation to gifted readers in primary school in China and Scotland. Chapter 2 explored issues regarding the conceptualisations and teaching of gifted readers. It concluded that the development of reading abilities is unstable, arduous and fluid. Thus, gifted readers need systematic and appropriate support from education. The importance of appropriate education for each gifted reader is the fundamental argument of this research. Appropriate pedagogical strategies should be used to develop gifted readers in the classroom. However, in practice, what remains in question is whether and how such research-led provision is used by teachers to nurture gifted readers in each specific sociocultural context. Therefore, in this chapter, the aim is to contextualise the research in depth by examining the case of Scotland then China. Themes regarding historical and cultural issues, current education systems, the curricula in terms of literacy and how primary teachers consider and develop gifted readers within each education system are explored. A synthesis and comparison is provided at the end of this chapter.

3.2 The Place of Gifted Education in Scotland: Historical, Cultural and Legislative Perspectives

Scotland has a long history of education and within this it can be seen that special education evolved from a system of segregation and labelling of those considered to be “different” from the norm (McCulloch and Sutherland, 2018). For example, early education acts reflect the thinking current at the time and their titles demonstrate how children and learners were described and viewed: Royal Commission on the blind, the deaf and the dumb (Her Majesty’s Stationery Office, 1889) and The Mental Deficiency (Scotland) Act (1913). The

labelling and categorisation of learners continued at the start of the 20th century and was informed by psychology which was an upcoming discipline and one that was to be hugely influential on how learners were viewed and educated (McCulloch and Sutherland, 2018). It was in this context that the development of IQ tests, which are synonymous with the field of gifted education, was prevalent and used to segregate learners of low ability. These wider historical approaches to the education of children who are somehow different are important when exploring how gifted learners are supported in the Scottish system.

In education, the medical or mechanistic model involved diagnosing children accurately and providing special treatment (Smith, 2006). The assumption was that some children were "normal", and others were "abnormal" and there was therefore a need to identify differences and segregate them for different educational treatment. Measured by the so-called IQ test, identified able children were admitted to senior secondary school and others were enrolled into junior secondary schools in Scotland (Smith, 2006). At that time intelligence was implicitly viewed as an inherited and static human trait rather than as developmental. This aligned with the historical understanding of giftedness within the wider Western context, as discussed in Section 2.2.1. However, even then, gifted learners were not always considered within this framework (Sutherland and Stack, 2018). Due to waves of criticism in relation to issues such as the reliability of IQ tests and social inequity (see, for example, Miller 1961; Ford 1969; Griffin 1969), the schooling system was reformed in Scotland from the mid-1960s. The selective system was gradually abolished and a comprehensive system with non-selective intakes was developed for children with a broad range of abilities and interests (Smith, 2006).

In 1978, the Warnock Report (Department of Education Services, 1978) was published and sought to increasingly integrate special education into mainstream education. The remit of the authors of this report was UK-wide and so Scotland adopted the ideas within it. After the publication of this report, effort was made to place and educate children with diverse needs in one setting rather than in separated settings. In Scotland, a progress report was published by Her Majesty's Inspectors of Education: The education of pupils with learning difficulties in primary and secondary schools (Scottish Education Department, 1978). This report called into question previously accepted ways of working with children, suggesting that children

would be best supported in class rather than through extraction and it went on to form the basis of changes made in schools.

In the early 1990s, ‘inclusion’ was introduced to replace the concept and term ‘integration’ (as brought in by the Warnock Report) as it was felt that integration emphasised the physical placement of pupils but did not address the real needs of diverse children (Allan, 2013). This followed the special care and assistance highlighted as important by the United Nations Convention on the Rights of the Child in 1989 (UNICEF, 1989). The Salamanca Statement and Framework of 1994 (UNESCO, 1994) called for inclusive education to become the norm for all children, young people and adults in order to eliminate social segregation and inequality in schooling. Influenced by these international policies, in Scotland, it became an important social and political priority to achieve the social value of egalitarianism through an inclusive approach to education (Gillies, 2013). Social understanding and educational provision for gifted children in Scotland is therefore inextricably linked to the development of special and general education (Sutherland, 2012). These historical developments have influenced current initiatives, legislation and documentation. As discussed below, there is a place for gifted learners within the Scottish education system, however, classroom practice may not always allow for their needs to be addressed (Sutherland, 2011).

3.3 The Contemporary Education System in Scotland

Scotland’s education system provides universal public education. The Scottish Government provides the legal framework for education in Scotland and seeks to “improve life chances for young people, support economic growth and increase the number of jobs” (Scottish Government, 2017a).

Compulsory education is comprised of primary education (from age 5-12) and secondary education (from age 12-16/18 years) although pre-school education is available from 3-5 years with free places being available from age 2 (Scottish Government, no date b) (see Table 3.1).

	Stage	Age
	Early learning and child care	Pre-birth to 3
Broad General Education	Early learning and child care	3-5
	Primary Education	5-12
	Junior Secondary Education	12-15
Senior Phase	Senior Secondary Education	15-18
	Further and Higher Education	Post 18

Table 3. 1 Scottish Education System

As discussed, schools are comprehensive and non-selective and so learners attend their local primary school. Students are placed in classes according to their age, however, this might be problematic for gifted learners whose age and ability does not always match their chronological age (Sutherland, 2011). The age and stage issue will be discussed further in Section 3.4.

The Standards in Scotland's Schools (etc.) 2000 Act talked about the presumption of mainstream schooling and called for education to provide "a child or young person by, or by virtue of arrangements made, or entered into, by, an education authority it shall be the duty of the authority to secure that the education is directed to the development of the personality, talents and mental and physical abilities of the child or young person to their fullest potential." (Standards in Scotland's Schools (etc) Act 2000, section 2). Since this Act is talking about all learners, it supports the education of gifted learners. However, it was the launching of the Education (Additional Support for Learning) Act 2004 (amended in 2009) that was the watershed in terms of legislation for educational provision for gifted children in Scotland. This was the first time that the Scottish legal framework explicitly acknowledged that gifted pupils may require additional support. Starting from a position of inclusion, the Act states that:

> A child or young person has additional support needs for the purposes of this Act where, for whatever reason, the child or young person is, or is likely to be, unable without the provision of additional support to benefit from school education provided or to be provided for the child or young person.

(Additional Support for Learning Act, 2004, 2009, Section 1) (Scottish Government, 2004)

Under the terms of the Act, education authorities have legal duties to identify and respond to all children's additional support needs in order to achieve inclusion instead of merely physical integration of learners in classrooms. The accompanying Code of Practice (2005, updated in 2017) clarifies that more able children and young people are among those who may require additional support in order to benefit from school provision (Scottish Government, 2005). Through supporting children with additional needs, Scottish education commits to achieve social inclusion. Furthermore, the UK's Equality Act 2010 supports inclusive education through placing duties on education authorities in terms of removing barriers to participation and accommodating diverse needs. More recently, *Getting it Right for Every Child* (Scottish Government, 2012a) and the Children and Young People Act (Scotland) 2014 placed children at the centre of support to improve outcomes for all. The Scottish Attainment Challenge was published in 2015 to address equity in educational outcomes for every child. It emphasises that children in Scotland should be sufficiently supported to develop their literacy and numeracy, along with other abilities:

> We want a Scotland where every child achieves the highest standards in literacy and numeracy and the right range of skills, qualifications and achievements to allow them to succeed regardless of their background or circumstances.
>
> (Education Scotland, 2015)

For teaching literacy and other subjects, teachers are expected to address the diverse needs of learners, including gifted readers, in the classroom. It can be seen that the underpinning inclusive approach to education should, in theory, allow for appropriate provision for gifted learners to be developed.

3.4 Curriculum Guidance for Teaching Gifted Readers in Scotland

Along with the legislative and political change for inclusion, a new curriculum framework *Curriculum for Excellence* (CfE) was developed (Scottish Government, no date a). The aim of the curriculum is "to help children and young people gain the knowledge, skills and attributes needed for life in the 21st century, including skills for learning, life and work" (Education Scotland, no date d).

There are 4 capacities, 4 learning contexts and 7 principles addressed in the curriculum. The purpose of the curriculum is to support all children and young people as they develop the four capacities: "successful learners, confident individuals, responsible citizens, and effective contributors" (Education Scotland, no date d). Each of these is open to question. For example, from the perspective of a gifted learner, they might be considered to be a "successful learner" because they have achieved a pre-determined outcome within the curriculum framework, however, they may be achieving well below what they are academically capable of. Personal achievement, along with curriculum areas and subjects, interdisciplinary learning, and ethos and life of the school, are emphasised as four learning contexts for all learners throughout their education (Education Scotland, no date d) and are applicable to gifted learners. In addition, seven principles that practitioners should consider when planning provision are included: "challenge and enjoyment, breadth, progression, depth, personalisation and choice, coherence and relevance" (Education Scotland, no date d). These elements and standards are highlighted as crucial in providing optimal learning environments and opportunities for gifted students in curricular models developed by researchers in the field of gifted education (see for example, Renzulli and Reis, 1985; Kaplan, 2005; VanTassel-Baska 2011, 2017). Yet again, it can be seen that the legislation and framework are in accordance with current research on gifted learners.

Literacy is articulated as a key curriculum area in CfE and, crucially, is seen as the responsibility of all staff:

> Literacy, numeracy and health and wellbeing are recognised as being particularly important – these areas are seen as being the 'responsibility of all' staff.

(Education Scotland, no date d)

Gifted readers are thus situated within this framework and so, theoretically, the curriculum values and capacities can also provide opportunities for the development of gifted readers. Along with this curriculum framework, the Scottish Government published a series of documents to support teachers known as Building the Curriculum (Education Scotland 2006). They provided "advice, guidance and policy for different aspects of Curriculum for Excellence" (Education Scotland, no date a). To guide teachers in what was expected of the learning experience, "Experiences and Outcomes" for curricular areas were developed. "Experiences and Outcomes" for literacy are divided into three areas: listening and talking, reading, and writing (Education Scotland, no date b). There are five developmental stages in each literacy area, which allows teachers to understand requirements for abilities and knowledge in different development stages of literacy of a child. For average readers, teachers could choose texts and plan reading activities at a typical age-appropriate stage. For gifted readers, whose age and stage does not match (Sharp and Clemmer, 2015), this "Experiences and Outcomes" document also helps teachers because it clearly provides experiences and objectives for higher stages. Teachers could plan activities for higher stages that actually match the ability level of gifted readers. However, there is always the risk that teachers might stick to experiences and outcomes required for each stage for same-aged readers, although these readers are at different levels of ability. Flexibility of teaching is important when teachers are choosing texts and planning activities for diverse readers. For reading, children should be supported in terms of enjoyment and choice, tools for reading, finding using information, understanding, and analysing and evaluating (Education Scotland, no date b). Moore (2005) and Smith and Arthur-Kelly (2016) argue that gifted readers should be provided with more opportunities that can address their higher order thinking skills. Thus, these five aspects need to be differentially involved to accommodate learning needs of gifted readers, indeed, all readers. For example, a gifted reader might not need activities addressing experiences in "tools for reading" that involve basic language skills, and teachers could plan activities addressing experiences in "understanding, analysing and evaluating" as this allows more opportunities for gifted readers to develop their higher order thinking skills.

In Scotland, generally, gifted children are understood to be those who demonstrate or are capable of demonstrating abilities that are advanced of their peers (Scottish Network for

Able Pupils, 2009). It seems reasonable to suggest that, in Scotland, gifted readers are thus possibly considered as children who can read or are capable of reading in advance of their peers. In practice, to challenge and further develop gifted readers, as discussed above, teachers need to consider their ability levels rather than their age. Within CfE, it appears that this flexibility is recognised as essential and the curriculum framework and the Experiences and Outcomes allow for this so that all children, including gifted readers, are encouraged to develop as far as they can:

> The experiences and outcomes embody appropriate levels of proficiency at each level but do not place a ceiling on achievement. The range of experiences allows for different rates of progression and for additional depth or breadth of study through the use of different contexts for learning.
>
> (Scottish Government, no date a)

In order to tailor provision for gifted readers, teacher autonomy is recognised as important if teachers are to respond to the different ability levels, interests and family backgrounds of learners (Pearson and Moomaw, 2005; Skaalvik and Skaalvik, 2014). As constructed by the curriculum, effective learning and teaching for literacy involves approaches such as "relating learning to authentic contexts, interactive teaching, independent learning, use of a wide range of texts, effective use of ICT, interdisciplinary learning" (Scottish Government, no date a). In Scotland, this signalled a shift from a curriculum that viewed practitioners as adopters and implementers of policy documents, as found in previous curricular frameworks, to a curriculum that placed teachers at the centre of planning and provision Priestley and Humes (2010: 359) argue that "later developments in CfE have constrained this aspiration". If such a curriculum is to translate into practice, it is crucial that schools and teachers have a high level of autonomy to implement it in their specific contexts and thus plan individual provision for diverse learners. This is also argued as crucial to develop gifted readers by various researchers in gifted education (see, for example, Dooley 1993; Austin 2003; Reis et al. 2004; Sharp & Clemmer 2015; Simpson 2017) and so it appears that, as Sutherland (2011) argues, on paper, CfE is ideal to provide the optimum learning environment for all learners, including gifted learners. However, the curriculum is also criticised for lack of clarity in terms of its theoretical foundation, assessment and guidance for practices (Priestley and Minty, 2013) which might impede educational provision for, and achievement of, gifted learners in particular (Sutherland, 2011). Teachers' interpretation of CfE and their ability to

implement the curriculum in determining to make appropriate provision to accommodate additional needs is questionable (Donaldson, 2014). This poses great challenges for teachers, and questions remain as to whether all Scottish teachers can successfully implement this curriculum. Thus Priestley (2013: 37) suggests that "…it is one thing for policy to frame teachers as agents of change. It is quite another to enable this to actually happen." The Scottish legislative and policy work, theoretically, has been developed to support a diverse range of children, including gifted children (Sutherland & Stack, 2014). However, teacher efficacy in Scotland calls into question whether there is in fact a 'disconnect' between actual educational provision for gifted readers, indeed for all learners, and the political discourse. There needs to be continuous endeavour between each stakeholder if this is to become a reality.

In Scotland, numbers of identified gifted learners show an increasing trend, from 0.4 per 1,000 pupils in 2008, 3.6 per 1,000 pupils in 2012 to 4.8 per 1,000 pupils in 2017 (Scottish Government 2008, 2012, 2017). From a numerical standpoint this could be viewed as encouraging regarding educational identification of gifted children in the Scottish education system. However, general statistics cannot be used to fully understand school practices and care still needs to be taken in terms of "how these frameworks influence the interpretation, articulation and execution of practice if schools are to meet the needs of highly able pupils" (Stack & Sutherland 2014: 152). Stack and Sutherland (2014) argue that the gathering of the data used to generate these statistics is problematic with definitions being left to schools and authorities. While it could be argued that this allows schools and authorities to respond locally to this group of learners, Sutherland and Stack, (2014) argue that it also allows for misunderstanding and misinterpretation. Therefore, there is a need to closely examine how the legislation and policy change is translated into practice in each school and classroom by teachers.

Gillies (2013) argues that, to achieve inclusion, schooling and pedagogy for children should be changed to provide appropriate opportunities for every learner. For each teacher, questions are raised in terms of what they could do through regular classroom teaching in inclusive education. Fully accommodating diverse needs of learners is challenging and complex work for practitioners (Stack & Sutherland, 2014). For preparing teachers for inclusive pedagogy, Barrett et al. (2015) highlight the significant role of teacher education.

Scotland aims to raise all children's attainment, particularly in literacy and numeracy, and teacher professionalism, along with school leadership, parental engagement, assessment of children's progress, school improvement and performance information are all considered to be key drivers for inclusive education (Education Scotland, 2016). To address inclusive education within teacher education, the Scottish Teacher Education Committee inclusion group developed the National Framework for Inclusion to support the professional development of student teachers and in-service teachers (Scottish Teacher Education Committee, 2014).

The underpinning value of this document is that there should be a growth mindset for ability and talent development and "through high-quality teaching and learning, any child's capacity to learn can improve" (Barrett et al., 2015: 183). The belief that all learners, including gifted readers, should fully participate in school communities is embedded in teacher education regarding inclusion and additional support needs (Scottish Teacher Education Committee, 2014). Therefore, the education of gifted learners could be addressed through this framework thus increasing Scottish teachers' understanding and knowledge of gifted learners. Although this is encouraging in terms of policy discourse, in practice, continuing professional development can be problematic, particularly during a time of financial constraint (O'Brien, 2011). In addition, the wider literature suggests that many teachers find that there are barriers such as time, finance, support, and accessibility preventing them from attending continual professional development opportunities even when they are offered (Bubb and Earley, 2009). Professional standards might offer an opportunity to address the issue of professional understanding (Torrance and Forde, 2017) and, in this regard, the National Framework for Inclusion may be helpful as it is aligned to Scotland's standards for teaching. However, Sutherland and Stack (2014) note that not all education authorities directly address the needs of highly able learners, albeit that activities discussed in continuing professional development events would be appropriate for such learners.

There is potential within the legislation and documentation in Scotland to address the place of gifted learners (Sutherland and Stack, 2014) but it remains challenging to move from the theoretical and policy level to the practice level to ensure that learners are supported in schools and classes.

3.5 The Place of Gifted Education in China: Historical and Cultural Perspectives

In Chinese history spanning over five thousand years, there have flourished many profound value systems, including Confucianism, Daoism, Mohism, and Yin-Yang Theory. Among these value systems, Confucianism gradually became the mainstream social ideology during the Han Dynasty (around 136 B.C.E.) and even today, Confucian thinking still impacts Chinese civilisation and education system more than other thought systems (Lee, 1996; Li and Wegerif, 2014). Dai et al. (2016) argue that gifted education in China has been driven by cultural beliefs and values. Thus, to understand Chinese gifted education, there is a need to examine it from the perspective of Confucian thinking and other traditional cultures.

As in the case of Western debate regarding nature and nurture, Confucius also presented his belief for this issue in the *Analects* (论语), the record of the experiences and dialogues of Confucius and his students. Confucianism emphasised perfectibility for all, a high respect for teachers and education, and high achievement by willpower and diligence (Oh, 2002). It can be interpreted that all learners thus are encouraged to gain high ability and excellence through learning and education. Dai et al. (2016: 57) conclude that the view of Chinese tradition is that gifted performance is nurtured instead of innate and there is no "fundamental capacity constraints imposed on the learner", which is opposed to the Western work of Terman (1926) and Galton (1869). However, Confucius also noted that those who are born to know are the upper class and those who learn to know are the second class (生而知之者，上也；学而知之者，次也… *Analects*, 16:9). It can be seen that Confucius did acknowledge the importance of the role of inborn ability for learning and personal development but he also thought that through persistent learning one can develop his/ her knowledge, although the inherited approach should be much more honoured. The same Chinese implicit view of nature and nurture is reflected in the famous story *Sorrowing for Zhongyong* (伤仲永), which is written by Wang Anshi in Song Dynasty. Zhongyong was a prodigy who could write extraordinary poems at the age of five. His father took Zhongyong to perform his talent in many towns to make money and earn reputation, and thus Zhongyong did not receive any education. Gradually Zhongyong lost his giftedness and became an ordinary person. The folk psychology reflected here is that inborn giftedness needs to interact with education to be developed, which corresponds to the Western view on nature and nurture (see works such as Gagné 2004; Ziegler & Phillipson 2012). Most importantly, Confucius raised the concept

of *ren* (仁, benevolence), which addresses the moral aspect of a learning person. *Ren* is "a deep and ultimate concern for the well-being of others" and one should attain *ren* through continuous "self-cultivation and self-transformation" (Chan 2008: 120-121). The concept of *ren* is also constructed in Sternberg's WICS model of Giftedness as wisdom, which refers to a mindset which is concerned for the well-being of others (Sternberg, 2003). Therefore, the traditional Chinese understanding of giftedness is multifactorial – inner ability, effortful learning and its interaction can lead to high achievement, and furthermore, the highest giftedness should involve *ren* for the good of all humanity. Due to the recognition of individual differences, Confucius raised and practiced the idea of teaching according to individuals' features and needs. This belief is also presented in the contemporary Chinese curricula that advocate individualised teaching for students and the fostering of a differentiated learning environment beneficial for gifted learners.

On the other hand, Chan (2007) points out that the core Confucianism tenets – collectivism, harmony and filial piety – devalue creative and critical thinking thus possibly inhibiting the development of gifted individuals in domains that require creativity and critical thinking. The traditional view that education should aim to cultivate political talent to serve the country would impede diversity of giftedness in a wide range of domains in contemporary times (Li, 2015). Zheng (2010) also notes that an overemphasis on the authority of teachers would solely encourage the obedience of students and hinder their independent thinking. Therefore, the influence of Confucianism and other traditional values on gifted education in China is not straightforward but a double-edged sword that exerts both positive and negative impact.

Historically, based on the teaching and philosophical thinking of Confucius, *Keju* (科举, the imperial examination system), was established to select talents for national personnel enrolment. *Keju* originated from the Sui Dynasty (A.D. 581 – 618), was developed as a very complete system in the Tang Dynasty (A.D. 618 – 896) and continued to be used until the late Qing Dynasty (1644 – 1912), and overall it lasted for 1,300 years and was influential in Chinese history. Through *Keju*, giftedness and talent were shaped by the government to serve political goals and national interests (Zhang, 2017). In order to excel in *Keju*, students need to spend most of their time to memorize by rote the Confucian classic texts – The Four Books and Five Classics (四书五经) – and recall factual knowledge. The high stress on literacy

achievement in *Keju* indicates that China has a deep cultural sensibility which fosters gifted literacy learner, although talented literacy abilities that were valued in this system relate more to rote memorization and hard work. Also, this identification system values acceptance of governmentally defined classes, as well as high conformity and continuity with the governance at that time. However, Dai et al. (2016: 58) note that *Keju* was a meritocratic identification approach that promoted social mobility and that many underprivileged people's lives were radically changed through their personal endeavour in this pathway. Thus, this examination system was underpinned by equality and equity to a large degree. Nowadays, the academic-oriented approach of *Keju* to identify talents still manifests itself, mainly in the form of the high-stakes exams, in the current Chinese educational system (Chin, 1988). The next section discusses the contemporary Chinese education system and the role of academic-oriented assessment and its possible influence on gifted education.

3.6 The Contemporary Education System in China

Since the establishment of the People's Republic of China in 1949, China has undergone significant social changes and transitions in order to develop into a modernised country. With the awareness of the significance of education, the Chinese government has committed to universalise compulsory education to create an educated citizenry for national development. The launch of the *Compulsory Education Law of the People's Republic of China* in 1986 (National People's Congress, 1986), the 1990 World Conference on Education For All in Jomtien, Thailand and the issue of a series of national policies and plans, including *Guidelines for the Reform and Development of Education* in 1993 and *Decision on the Deepening of Educational Reform* in 2000, have promoted China's popularisation of basic education, decreased illiteracy and cultivated skilled labour. The achievement is notable. The enrolment rates of school-age children for primary education increased from nearly 20% before the establishment of PRC to 97.9% in 1990 and 99.92% in 2016; the enrolment rates of junior secondary school increased from only 6% in 1949 to 98.7% in 2016 (CPG, 2013; MOE, 2017). Although China has made remarkable progress in terms of general education, it continuously needs to deal with problematic issues such as low quality of learning and teaching, a vast population, limited resources, and inequality of education (Rao *et al.*, 2013). Also, the education system of China is rather exam-oriented, centralised and standardised (Wu, 2016). In 2010, an important policy document, *Outline of*

China's National Plan for Medium and Long-term Education Reform and Development 2010-2020, was published to confirm the achievement of previous work. It stresses the need to consolidate primary and secondary education by 2020. Further, this report points out that educational stakeholders should focus on delivering equal education between rural and urban areas to everyone regardless of background. Meanwhile, the quality of education should be raised so that students' ideological awareness and academic attainment are improved (CPG, 2010). In this period, education in China faces great challenges, including underdeveloped pedagogy, curriculum and learning resources, limited educational funding, and a lack of innovative educators to respond to learners' needs and social changes (CPG, 2010). This background knowledge should facilitate understanding on current teaching practices for gifted readers in the Chinese primary school.

The current Chinese education system is comprised of five stages, in which nine years of primary school and junior secondary school are compulsory education for every school-age child by Education Law (see CPG 2006: Chapter One):

- Preschool education,
- 6 (or 5) years of primary education,
- 3 (or 4) years of junior secondary education,
- 3 years of senior secondary education (academic-oriented) or vocational education (job-oriented),
- Higher education.

To receive free compulsory education, most school-age children should go to the public school in their catchment areas according to their enrolment policy. Entrance examination is usually not applied at this stage and, differently from most Western countries where primary teachers are responsible for a class and most subjects, each primary teacher in China is responsible for a main subject such as literacy or mathematics in several classes. In the communist society of China, most primary schools are state schools. They comprise 96.6% of all primary schools (also including private schools and international schools) and provide education for 92.4% of all primary students (MOE, 2017). State schools in China are owned by government authorities and tend to enjoy a higher reputation among parents and students. After compulsory education, Chinese students can choose to go to senior secondary education or vocational education. To be admitted to key senior secondary schools, students

should demonstrate high performance in the regionally standardised, academic-oriented entrance examinations. To enter the better universities, students need to continuously work hard to prepare for the National College Entrance Examination (NCEE) in their senior secondary school. The NCEE has similar function as the ancient examination system, *Keju*, to select talent nationwide. The NCEE also took some key features over from *Keju*, such as an academic orientation, valuing existing knowledge and rote memorization (Dello-Iacovo, 2009). The examination competition is very fierce, and students and their families treat these high-stakes exams as a critical or even sole pathway for social upward mobility. This is reflected in the widely accepted saying: "Knowledge can change one's destiny".

Although there are no entrance examinations at the stage of primary education, examinations for senior secondary and higher education still exert impact on learning and teaching in primary schools (Chu, 2012). Sit (2013) notes that, in an exam-oriented education system, schools and families tend to regard exam results, which mainly focus on intellectual abilities, as their priority and thus possibly ignore the other needs and diverse talents of students. Under the present enrolment rate of higher education, teaching pedagogy, learning materials, teacher-student relationship, physical arrangements and learning styles have all been shaped by exams in schools (Kirkpatrick and Zang, 2011; Yan, 2015). Numerous recent empirical studies have found that textbook-centred, exam-centred and teacher-centred pedagogy is still prevalent in Chinese schools (see, for example, Kirkpatrick & Zang 2011; Rao et al. 2013; Chen 2015; Tan & Hairon 2016). There is little room for critical and creative thinking to be fostered and encouraged in the classroom as the high-stakes assessments focus more on existing and factual knowledge than on higher order thinking. Enriched learning opportunities and resources outside of the curriculum and exam content are considered less important by parents and schools when the time for periodic examinations approaches, and teaching methods are geared towards exam requirements instead of methods that are considered more effective in engaging and developing gifted learners (Fu, 2017). Chu (2012) concludes, not surprisingly, that gifted education in China is mostly situated in key universities, as in these places educational provision is not shaped by standardised exams so that the elements of gifted education, such as diversity, innovation, higher order thinking, practical ability and independent learning, can be allowed and supported.

Despite the reality that the exam-oriented approach still prevails in most Chinese schools and that very few schools adopt innovative teaching strategies for students including gifted learners (Fu, 2017), the country has long been aware of the problematic issue that this approach is restricting possibilities of individual development. Thus, the education system in China has undergone several waves of pedagogical reforms to seek change for the past few decades. At the end of 20th century, quality-oriented education was implemented as a key national strategy through a flurry of policy initiatives in China. In contrast with exam-oriented education that focuses on academic tests and intellectual abilities, quality-oriented education aims to develop a more holistic approach to foster the whole personality of students who are to be imbued with a spirit of innovation, practical ability and developed in moral, intellectual, physical, and aesthetics areas (MOE, 1999). MOE (1999) also points out that education provision should be for every student based on their characteristics of physical and psychological development and the law of education. The whole education system in China seems to be transforming from valuing talent which is laden with factual knowledge to valuing creative and innovative talented people who are able to make contributions in the new era (Zhang, 2017).

One of the key areas for promoting quality-oriented education is curriculum reform for basic education (including preschool, primary and secondary education). In 2001, a key document, the *Outline of the Curriculum Reform for Basic Education (Trial)*, was launched. This document regarded a wide scope of issues in basic education, such as school management, teaching materials, assessment and teacher training (MOE, 2001). The curriculum reform has potential to create an environment that is beneficial to develop flexibly every student, including gifted students. MOE (2001) notes that it aims to engage every student in active and inquiry learning instead of passive learning and rote memorisation, increase flexibility and diversity of courses to meet the needs of different students, and to shift the focus of the assessment function from identification and selection to student growth, teacher development and provision. Decentralisation of discipline management was also emphasised with the purpose of enhancing curriculum adaptability for students from different regions, schools and with diversified features (MOE, 2001). The reform has been in place for nearly 19 years now in China. While it has certainly pushed forward social thinking for education and various experimental projects are considered successful and inspirational to develop students' diverse abilities and personalities, many extant problems and challenges cannot be ignored (Dello-Iacovo 2009; Ruan & Jin 2012; Rao et al. 2013; Li et al. 2017). Among all

the curriculum subjects, literacy, as the most fundamental ability, is at the centre to be reformed (Ruan and Jin, 2012). Since the focus of this thesis is on teaching gifted readers in the primary school, the next section discusses problems and challenges in terms of primary literacy curriculum and teaching reading in this transition period of education in China.

3.7 Primary Literacy Curriculum for Teaching Gifted Readers in China

In the wave of the quality-oriented education reform, in 2001, the Ministry of Education in China published the *Chinese Language and Literacy Curriculum Standards for Full-Day Compulsory Education* as a trial version. After ten years of intense experimentation and practices, it was then revised in 2011 as a finalised, comprehensive and up-to-date version with minor changes from the trial one. The literacy curriculum conceptualised literacy as the most fundamental area of learning for other curriculum areas and for whole personality development of children and an irreplaceable strategy for cultural heritage, national cohesion and creativity (MOE, 2011). Thus, it is of personal and national significance for educators to develop the literacy abilities of every student, although they might have different abilities and interests in literacy.

The new curriculum has been profoundly influenced by Western education and philosophy (Dello-Iacovo, 2009). Similarly to many Western curricula, the Chinese curriculum points out that learning and teaching in the regular classroom should be student-centred instead of teacher-centred (MOE, 2011). This thinking is revolutionary as, in Chinese traditional culture and society, the teacher was treated as the authoritative transmitter of knowledge and thus learning was teacher-centred. Student-centred teaching is reflected in the four guiding principles in the curriculum: (1) include all students and fully develop their intellectual and emotional characters; (2) understand the characteristics of language and literature education; (3) advocate independent learning, collaborative learning and inquiry-based learning and concern about individual differences and different learning needs; (4) build a curriculum of openness and vitality, support the needs of various areas, schools, and individuals, always self-adjust and improve the framework (Ruan and Jin, 2012). Although the curriculum does not clearly articulate what differences of individuals may be, and does not raise the issue of

gifted readers, these principles create a useful curriculum for gifted literacy learners, including gifted readers, to be developed. The shift in pedagogical practice could create an accommodating environment that contains flexibility for a different pace of learning (Vosslamber 2002; Tomlinson 2014; VanTassel-Baska 2017; Westberg & Leppien 2018). It is suggested by the curriculum that literacy learning and teaching should integrate information technologies. This implies that for teaching gifted readers and other children, inquiry reading and independent learning could be practised through the internet and, in addition to literacy textbooks, a wide variety of ICT-based reading texts, such as digital app books, moving-image pictures, and audio books, could be utilised to enrich their reading experiences.

Under this curriculum, the local authority or school is encouraged to select a series of textbooks as the main literacy resource for literacy teachers to use. As discussed in Section 2.4.2.1, the requirement for teachers to use textbooks could standardise teaching in less competent regions and could provide a systematic way for learning and teaching of literacy (Greenlaw, 1990). However, it might also jeopardise the development of gifted readers as the compacted texts and standardised contents in the textbook might be a mismatch for their abilities and unable to stimulate optimal learning in mainstream class teaching. Therefore, it seems that a balanced use of textbooks and extracurricular literacy resources is critical to develop all readers (see Section 2.4.2.1). In addition to textbooks, the curriculum also encourages teachers and schools to develop literacy resources from their local communities, public spaces and the internet, such as theatres, natural scenes, museums and advertisement signs. It points out that literacy learning should be interdisciplinary, should catch up with the changes in society and connect to children's life (MOE, 2011). Hence, the curriculum could develop a wide range of literacies for pupils, such as literary literacy, financial literacy, mathematical literacy and scientific literacy, in their teaching planning. One important text form is classical Chinese poems, as a large number of them are required by the curriculum for pupils to memorise and recite in order to enhance their understanding for traditional Chinese language and culture (MOE, 2011). This emphasis on classic reading materials might influence Chinese teachers' use of a wide range of texts.

Reading assessment, as required by the curriculum, should involve multiple forms, including formative and summative assessments. Standardised tests should not be the only method to

evaluate students, and classroom observation, questionnaires, interviews, peer evaluation and self-evaluation need to be combined (MOE, 2011). The curriculum also points out that the purpose of various assessments is to better facilitate student learning rather than to select and rank students (MOE, 2011). Through dynamic assessment feedback, teachers can flexibly modify their teaching pace and contents to suit students' need in their learning process. This assessment approach is in line with Tomlinson (2001) and VanTassel-Baska (2017) who argue that ongoing assessment and proactive instruction adjustment should be provided to develop learners, including gifted learners.

Through analysis of the curriculum, it can be argued that theoretically the curriculum could provide an inclusive educational environment that can engage gifted readers in terms of pedagogical strategies (e.g. individualised teaching, inquiry learning, and independent learning), enriched reading materials and dynamic, multiple assessments. However, in practice, various studies provide evidence that Chinese teachers have faced great challenges in implementing the curriculum since the beginning of quality-oriented education reform (see, for example, Zhong 2006; Ruan & Jin 2012; Tan 2017). As previously discussed (see Section 3.3), on a wide scale, the Chinese education system is still exam-oriented and many teachers still prefer to adopt lecturing-oriented teaching instead of new student-centred pedagogical strategies. Tan (2017) notes that it is difficult for teachers and schools to transform their deep culturally embedded transmission and collectivism pedagogies to Western constructivism pedagogies. Especially with limited professional training and support, many teachers, excepting those in elite schools and economically advanced regions, are left to their own devices to figure out the meaning of those pedagogies written in the new curriculum. Furthermore, a lack of educational resources contributes to ineffective reform. Large class size that leads to heavy workload for teachers, insufficient funding to maintain resources for new pedagogies, and limited places for senior secondary education and higher education have all impeded implementation of the curriculum (Dello-Iacovo, 2009). The curriculum is still centralised in terms of the use of literacy textbooks and teachers may rush to complete the teaching task with little time left for extra enrichment and independent learning of students (Wang, 2011). These extant problems may also hamper educational provision for gifted students, including gifted readers. As there are an inadequate number of studies focusing on provision for gifted readers under the transition stage of Chinese education, it is important for this research to explore this topic and contribute to how China

might push forward quality education reform from the perspective of gifted education as well as improve gifted education in China.

3.8 Synthesis

This chapter has focused on the specific contexts for teaching gifted readers in China and Scotland. It indicates that the historical and cultural understanding of giftedness in both countries is related to inborn ability and the crucial role of education. Education for gifted learners, indeed, for all learners, is evolving in both countries. While the philosophical evolution from labelling and segregation to inclusion drives the Scottish education system to take an inclusive approach to gifted learners, including gifted readers, the Chinese system is transferring from exam-oriented education to quality education that emphasises a more holistic approach for all learners. However, it will take time and significant effort for both countries to evolve their philosophical thinking into actual practices for all learners in their education systems.

The above discussion of the legislative and policy framework in each country (also see Chapter 1) reveals that Scotland has a more complete legislative and policy framework to ensure rights and appropriate provision for gifted readers than China. In Scotland, an inclusive approach to gifted readers is embedded in the education system. The Education (Additional Support for Learning) Act 2004 is the watershed for inclusion of gifted learners into the national legislative framework, and the directive that attainment should be improved for all children is addressed by policy documents such as *Getting It Right for Every Child* and the Children and Young People Act (Scotland) 2014. In contrast, at the current stage of development in China, the issue of gifted learners, including gifted readers, has not been explicitly articulated in the overall legislation and policy framework. This implies that, in practice, systematic educational provision for gifted readers might be impeded due to a lack of legitimacy and rationality in China.

Interestingly, both China and Scotland started curriculum reform at the beginning of 21st century. In both curricula, literacy is conceptualised as the most important and fundamental

area. On paper, both curricula have the potential to provide optimum learning opportunities for nurturing gifted readers with respect to pedagogical strategies such as active learning, independent thinking, and allowing flexibility of teaching to respond to individual needs. However, regarding actual implementation, both curricula have flaws. In Scotland, CfE is criticised in terms of its clarity in terms of how the overarching values and principles should be interpreted and delivered in implementation, hampering teachers' provision for gifted learners (Sutherland, 2011). In contrast, the Chinese curriculum is so centralised and focused on literacy textbooks for classroom teaching that teachers have less flexibility to look for enriched reading resources and modifying reading activities for gifted readers (Wang, 2011). Indeed, in an exam-oriented education system, teaching methods and resources tend to be geared towards exam, which means that a wide range of extracurricular texts would be considered less important than exam content (Fu, 2017). This tends to limit Chinese teachers' differentiated and optimum provision for gifted readers. Thus, it appears that Chinese teachers' teacher autonomy is much lower than that of Scottish teachers in classroom teaching. This implies that, in practice, gifted readers would be considered less by Chinese teachers than by Scottish teachers, due to this comparatively lower teacher autonomy.

Chapter 4 Methodology

4.1 Introduction

A review of literature in previous chapters indicates that there is a paucity of empirical research that relates to how teachers understand and teach gifted readers in China and Scotland. Therefore, this research aims to explore teachers' conceptualisation of gifted readers, as well as to understand how teachers support gifted readers in current primary school practices in the sociocultural contexts of China and Scotland.

Research questions were framed to achieve this aim in the process of critical literature analysis:

1. How do primary teachers conceptualise gifted readers in China and Scotland?
2. Do primary teachers use children's literature to nurture gifted readers in China and Scotland? If so, what kinds of children's literature do they use?
3. How do primary teachers teach gifted readers in China and Scotland?

Methodological congruence must be considered to achieve the research aim. Morse and Richards (2002) point out that research aim, question, paradigms, methods of data gathering and analysis need to work cohesively as a whole system rather than disconnected parts. As such, this chapter will focus on methodological issues to illustrate how such congruence can be achieved by choices of research methods and how these may influence the research process and findings as a whole. This chapter discusses arising issues in relation to philosophical thinking underpinning this research and the choices of a qualitative methodology and design. It also covers developed methods, sampling, data collection and analysis procedures. In addition, this chapter considers related ethical issues. All these critical issues work together to drive a scientific inquiry and to contribute to social knowledge.

4.2 Qualitative Approach

Social research is influenced by the researcher's philosophical assumptions or theoretical framework (Lincoln et al., 2011; Sarantakos, 2013; Mertens, 2015). Therefore, it is essential to state the researcher's position and conception towards these issues in the first place. The researcher's philosophical assumptions are constructed by her ontology which refers to "the nature of reality", epistemology which refers to "the nature of knowledge", and methodology which refers to "the nature of research design and methods" (Sarantakos 2013: 29). In terms of ontology, constructivist researchers argue that there is no single, true and independent reality because social phenomena are perceived and constructed by people in a special context and culture, thus one reality might not be true for people in different situations. In relation to epistemology, prescribed by ontology, constructivists aim to understand individual uniqueness and re-interpret the constructed meaning. The goal of social constructivists is to find the complexity of varied views and meanings as those meaning constructions are shaped by historical and cultural norms (Creswell, 2014). Therefore, this constructivist paradigm implies that, for the current study, the researcher has to understand the complexity of a teacher's conceptualisation and teaching of gifted readers in two special sociocultural contexts – namely the Chinese and the Scottish. Teachers' beliefs and experiences cannot be evaluated in a vacuum. Each unique sociocultural context, and each specific education system and school environment needs to be considered in order to gain in-depth understanding.

Researchers' choices of methodology are profoundly influenced by their ontology and epistemology. While a positivist believes that it is possible to make objective statements about reality and the predictability of human behaviours and thus tends to adopt a quantitative approach and numerical methods, a constructivist has the philosophical stance that asserts the subjectivity of reality and dynamic state of human behaviours and thus tends to adopt a qualitative approach and exploratory methods (Johnson and Christensen, 2012). In this study, the researcher took the position that teachers in China and Scotland had been developing the subjective meanings of their teaching practices for gifted readers, and then constructing their specialised reality and knowledge in the interaction with their particular environment. These perceptual and experiential concepts are subjective, situational, dynamic and diversified and thus are difficult to measure with a positivist paradigm and quantitative data analysis as this combination tends to test hypotheses or generalise findings based on

identifiable components and factors. On the contrary, a constructivist paradigm and qualitative data analysis provide opportunities to reconstruct and synthesise teachers' personal meanings in each given context (Gall *et al.*, 2007). The research aim works congruently with this combination and also influences the choice of a specific methodology (Creswell, 2014). Creswell (2014) points out reasons to match a qualitative methodology with a research problem:

- the research is exploring a concept or a phenomenon with little existing research;
- the situation is complex and variables are difficult to identify;
- the sample or the population has never been studied in relation to the topic.

In the current research, firstly, so far as the literature review indicates, there is little research focusing on teachers' understanding and current school practices for gifted readers. Secondly, too many issues, such as those of policy and curriculum and the issue of culture, are involved in the learning and teaching experience, and thus it is difficult to explore research diversity through causal factors, statistical methods and assessments. Through using qualitative analysis of data, such as that gathered by interview, the breadth and depth of teachers' meanings in relation to gifted readers can be explored. Thirdly, there is no research studying the group of Chinese and Scottish primary teachers in relation to the thesis topic.

This research is rooted in a constructivist paradigm with qualitative data analysis as this combination is deemed as the most appropriate to achieve the research aim which is to holistically understand teachers' conceptualisations and experiences of teaching gifted readers in a Chinese and Scottish context. Methodological congruence can be achieved through ensuring the consistency between research aim and questions, philosophical underpinnings, research design and methods.

4.2.1 Through the Lens of Comparison

Although not a true comparative study, the current research has borrowed some ideas from comparative study in order better to synthesise and analyse findings from the two countries and cultures. Whilst comparisons can be made from a range of dimensions such as time periods, countries, cultures and cases, this research has attempted to explore the current

practices in relation to gifted readers in two countries: China and Scotland. Making comparison enables the researcher to make an initial comment about differences and similarities of China and Scotland. Because each country can be reflected through the lens of another country or culture, the comparison perspectives can highlight the important role of the historical, political, economic and cultural contexts in which social phenomena happen and are perceived. Issues that the researcher might be unaware of can be revealed in this process with fresh understanding (Hantrais and Mangen, 1996). Through borrowing ideas from comparative study, findings of this research could also serve as a starting pointing for further comparative study involving a more rigid structure for in-depth comparison regarding gifted education in China and Scotland.

Comparison of countries that looks for commonalities and differences can be conducted by either qualitative or quantitative analysis of data. For qualitative research underpinned by a constructivist paradigm, Fairbrother (2014: 76) notes that researchers value "cultural, political and social contexts, and the position that education cannot be decontextualized from its local culture". It can be seen that both a qualitative methodology and comparative perspective require the researcher to examine the complexity of social phenomena influenced by each particular sociocultural context. Therefore, first there is a raw and superficial comparison and synthesis of the commonality and uniqueness of Chinese and Scottish teachers' perspectives and lived teaching experiences of working with gifted readers; then there is a need to understand the findings through relating them to specific sociocultural issues such as social ideologies, legislation or educational resources that could profoundly influence gifted education in each educational system. This progression in the research process indicate that there is no meaning in simply evaluating teachers' teaching of gifted readers in China and Scotland without considering the complex socio-cultural and economic issues behind them.

The issue of equivalence of methodologies for a comparative study is critical. Although this research is not a comparative study in nature, the idea of equivalence could also be adapted to inform the research design. Equivalence forms the base on "which comparisons can be sensibly undertaken" (Phillips & Schweisfurth 2014: 22). De Vaus (2009) points out that non-equivalence of research designs, as well as non-equivalence of interpretation of data, can lead to findings of differences and similarities derived from data comparison that cannot

be representative of actual differences and similarities between countries. Attributions to such non-equivalence can be "non-equivalent samples, data collection methods and coding frames" (De Vaus, 2009: 259), survey literacy (Bulmer, 1998; Harkness, 1999, cited in De Vaus, 2009), and cultural differences (Jones, 1963, cited in De Vaus, 2009). Thus strategies were adopted in this research to improve equivalence with the purpose of maximising the extent to which data is reflective of the real situation. Firstly, the same methods, namely questionnaires and interviews, were used to collect data. Secondly, a similar group of participants, namely teachers and literacy coordinators in primary schools in China or Scotland, were involved to make comparison. Thirdly, the issue of terminology was carefully paid attention to beforehand. Different terms to represent gifted readers were used in these two countries to correspond to their cultural and educational contexts (highly able readers in Scotland and *chaochang* readers in China – as this term is used by Chinese scholars and practitioners to refer to gifted readers). Fourth, similar procedures and methods for data analysis were employed to decrease non-equivalence error.

4.2.2 Gifted Education in China and Scotland

As discussed in Chapter 3, the conception of giftedness and the role of gifted education in both China and Scotland is not static is always evolving. While the Scottish education system is transferring to a more inclusive approach due to the change of philosophical thinking from labelling and segregation to inclusion in Western countries, the Chinese education system is transferring to take a holistic approach for every student to develop them in terms of cognitive and socio-emotional aspects. In this transferring period, just as there is no consensus on gifted education between researchers of different socio-cultural contexts or even of the same context, it would be difficult to make assumptions on which model or theory can fully explain the complexity of gifted education in China or Scotland. Teachers in China and Scotland might believe that there is inborn ability relating to reading and thus there needs to be identification, which aligns to Gagné's DMGT. There might be also teachers who believe that hard work and sufficient education can support a reader to achieve gifted reading ability, which responds to Ziegler's AMG. However, one assumption that could be made is that there will be diversified understanding and pedagogical practices among Chinese and Scottish educators, as these understandings and pedagogical practices are constructed on their unique and different experiences.

4.3 Research Design

As discussed in the previous section, a qualitative research design was implemented to achieve methodological congruence and equivalence in this research. The research was designed to collect data from two perspectives: 1) the teaching perspective from teachers by using questionnaires and interview, 2) the perspective of literacy coordination from head teachers, deputy head teachers and principal teachers by using interviews. The purpose of using questionnaires for teachers was to provide preliminary and background information to inform the qualitative analysis of interviews as the main data collection method. In Scotland, a literacy coordinator can be a principal teacher who is specifically responsible for providing advice, support and guidance to teachers, a head teacher or a deputy head teacher who is particularly responsible for literacy management and for leading and working with colleagues in terms of developing children's literacy across the school (The Educational Institute of Scotland, 2018). Similarly, in China, literacy coordinators for whole-school literacy management are mainly deputy head teachers or principal teachers. While in both countries teachers mainly focus on their classes and implement classroom strategies and policies, literacy coordinators look after the whole school and make school wide policies to improve and facilitate literacy teaching. Therefore, these two perspectives contribute to understand the core topic of primary teachers' conceptualisations and practices of gifted readers. However, there might be gaps between how literacy coordinators think teachers teach and how teachers themselves think they teach. The research design is presented in Figure 4.1 showing many equivalent factors that facilitate the comparison of China and Scotland in the research process:

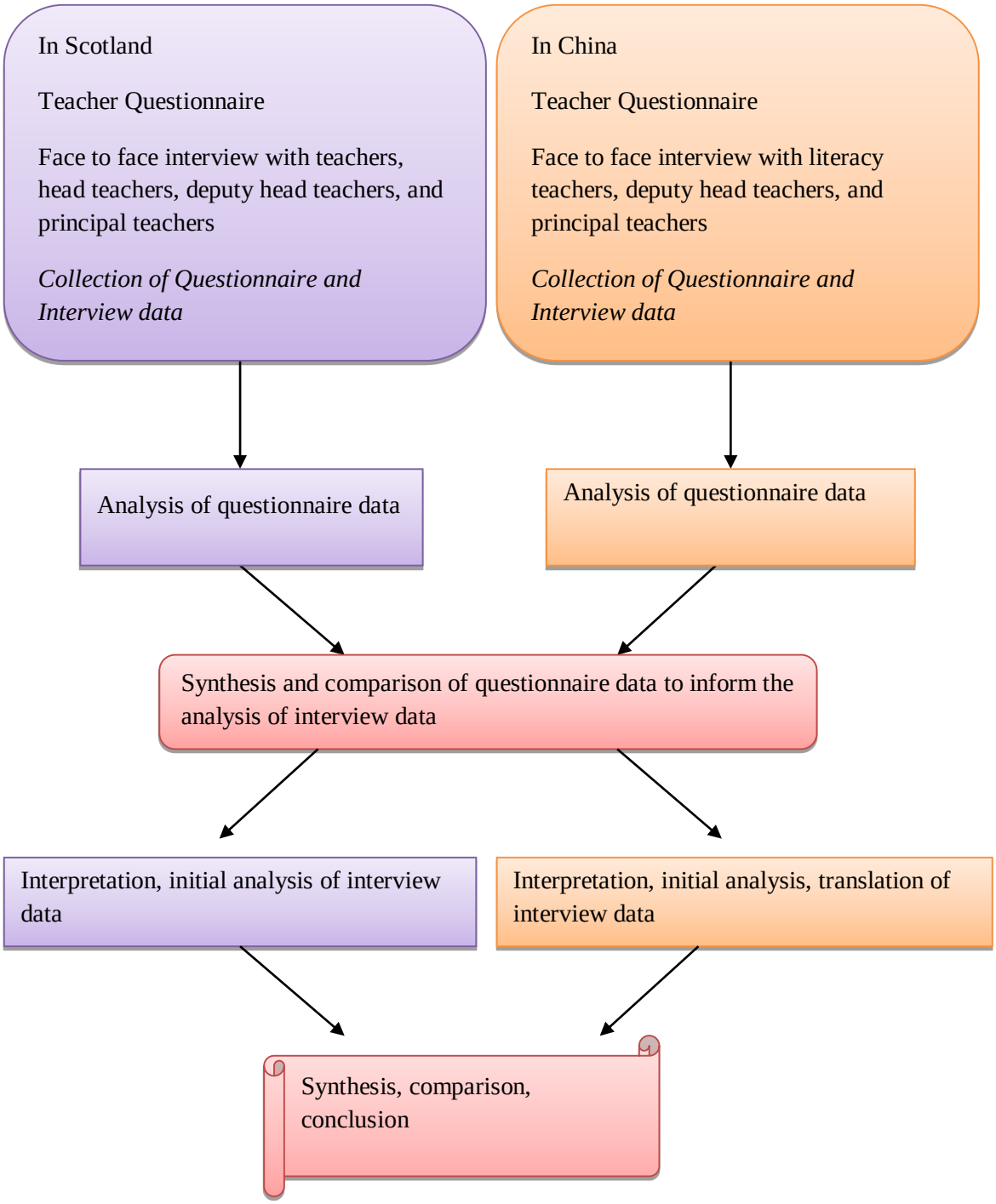


Figure 4. 1 The qualitative research design

The process of translation is not as straightforward as it sounds, rather it involves the translator's meaning-making and interpretation, and thus it can be problematic if translation is involved in research. For research to compare countries, Epstein et al. (2015) point out that, without sufficient consideration for translation, the research validity might be negatively influenced due to non-equivalence of data collection or analysis methods among the compared countries. Two commonly-used techniques for dealing with linguistic non-equivalence in a research that involves different countries are direct translation and back translation, each of which has its strengths and weaknesses (Sechrest *et al.*, 1972). As direct translation conducted by a single translator could easily result in idiosyncrasies and undetected problems, Werner and Campbell (1970) and Brislin (1970) suggest that back translation could be used to more effectively address discrepancies between the original language and the targeted language. Back translation relies on collaborative work between translators to translate and translate back between languages. In this way it can systematically eliminate misinterpretation and errors. Translators involved in this iterative process should have sufficient knowledge of the original and targeted languages, the original and targeted cultures as well as the field of research (Maxwell, 1996). Since part of the current research was conducted in China, it was essential to translate, with care, the questionnaire, the interview topics, and the Participant Information Sheet into Mandarin Chinese. Also, after data collection, some of the interview responses needed to be translated back to English in order to be presented in the thesis as evidence. Therefore, the researcher cooperated with Ms Wang Sihui who is her colleague researcher to translate the questionnaire, the interview and data analysis. Wang is bilingual in Mandarin Chinese and English and has experience in conducting educational research, thus she was considered suitable for back translation. These two researchers collaborated to clear up all linguistic errors and revised the translated version several times until agreement was achieved between them.

4.4 Methods of Data Collection

Questionnaires and interviews are two commonly used methods to collect qualitative data, (Johnson and Christensen, 2012). These two methods can be used to collect "data about phenomena that are not directly observable: inner experience, opinions, values, interests, and the like" (Gall, Gall, & Borg, 2007: 228) and data about the past, the current and the future

(Johnson and Christensen, 2012). Thus, in this research, teachers' past experience, current understanding and future ideas pertaining to gifted readers were sought through both questionnaires and interviews.

4.4.1 Semi-structured Questionnaire

A questionnaire is a self-report, structured method which can obtain both factual and psychological information from a large quantity of samples (May, 2011). The semi-structured questionnaire for teachers in this research was originally designed to serve three purposes: to engage as large a sample of teachers to provide general and contextual information; to identify possible participants for the second phase – the interview; and to be a pilot study for the interview by using open questions. However, both in East Ayrshire and Guangzhou, the schools preferred to distribute questionnaires and attend interviews simultaneously to save time. So they directly asked, and then arranged a schedule of teachers who were willing and interested in the study to attend the interview. To be considerate of the schools' busy schedule and be respectful of the schools' arrangement, the design was amended by the researcher to better suit their availability. So in reality teachers completed the questionnaires before or after interviews. This actually allowed more flexibility for teachers and schools to arrange their time. Even though the original design was amended, teachers' access to the questionnaire in advance (although some of them might not have completed it before the interview) triggered teachers to reflect on their practices for gifted readers and this benefitted their participation of the interview. Furthermore, the data from the questionnaire still provided useful information and general issues and themes before the researcher started to analyse interviews.

Pring (2004) points out that people might give the same answer to a question but have different meanings because they might interpret the wording differently due to different personal experiences. Due to this kind of misinterpretation, research bias could increase and this would hamper the research validity (Tymms, 2012). Added to this concern of misinterpretation is that researchers might have no chance to ask a participant to explain his/her answer or to explore it in depth. To counter this problem, the researcher designed several open-ended questions or empty spaces after some multiple choices in the semi-structured questionnaire, with the purpose of prompting teachers to clarify their own thoughts and provide more information and new ideas. However, this needs careful consideration, as

Cohen, Manion, and Morrison (2011) note that respondents may not want to answer those unclear open-ended questions or irrelevant answers may be obtained through questions that are too open-ended. In order to address this problem, the researcher piloted the questionnaire with two of her colleagues and another Scottish student teacher who was studying at the University of Glasgow. Their suggestions helped the researcher to revise those items that were ambiguous or otherwise hard to understand. In addition to open-ended questions, single choice, multiple choice, order ranking and Likert-type questions were also designed to obtain numerical and standardised data in relation to teachers' background, conceptions and practices of gifted readers in China and Scotland. Although it should be noted that this research is qualitative, the quantitative data sought by questionnaires could provide background and first-glimpse information from a larger scale of teachers in a fast and economic way. The data from the questionnaire helped the researcher to focus, analyse and explore issues and themes emerging from the interview data. Please see Appendix B and C for the questionnaire in English and Chinese.

4.4.2 Semi-structured Interview

While the semi-structured questionnaire is considered as an appropriate tool for obtaining general and background data from a wider group of participants, the method of interview is able to focus on a particular group of participants to achieve more in-depth and diversified information. An interview is "a process in which a researcher and participant engage in a conversation focused on questions related to a research study" (DeMarrais, 2004: 55). The most valuable part of the interview, perhaps, is that the researcher can "enter into the other person's perspective" to find out unobserved feelings or thoughts about issues that may not be possible to happen again (Patton, 2015: 426). Thus Merriam and Tisdell (2016) deem that in certain situations an interview is the only effective method for researchers to collect data. As such, to explore teachers' formed perceptual and experiential concepts in relation to gifted readers in the past that cannot be observed, the interview was chosen as the main method for qualitative data gathering and all interviews were audio-recorded by password-protected iPhone for later transcription and analysis.

Regarding the degree of openness of questions, a highly structured interview requires respondents to fit into the conversation and this may limit their naturalness and the possibility of discovering new topics out of the framework indicated by previous literature;

an informal conversational interview with low level of control may result in obscure or irrelevant responses, and chaos in data organisation and analysis (Patton, 1987). In addition, Hesse-Biber (2017) points out that a less-structured interview is especially useful when there is a lack of literature to form a question framework. Although there is much literature focusing on gifted readers internationally, there are few studies examining school practices of gifted readers in the chosen contexts, namely Guangzhou and East Ayrshire. The key point here is to decide carefully the flexibility degree to which an interview is designed. Therefore, a semi-structured interview was considered to be most appropriate as it allowed the researcher to access teachers' and literacy coordinators' perspectives about their experiences in their particular circumstances with fewer preconceived perceptions by the researcher. Merriam and Tisdell (2016: 110) argue that "a less-structured format assumes that individual respondents define the world in unique ways". With the researcher's open attitude towards participants' answers, diverse realities and new topics constructed by different participants can arise more easily. Interview questions do not need to be asked in order but can be asked flexibly depending on the answers received. In her own research, the researcher followed this practice. Also, "how" and "what" questions were mainly used in the semi-structured interview in the study to allow participants to think without restrictions but still revolve around the research points. Johnson and Christensen (2012) note that in an interview practice, using a probe, for instance questions such as "anything else?" and "how do you mean?", is a strategy of the semi-structured interview to make participants' ideas clearer or to explore further thoughts. Thus in this research, through using probes, new perspectives, unexpected directions and dynamic knowledge were explored, and opportunities for participants to think more in depth were offered.

Flick (1998) notes that participants who belong to an institution may not feel comfortable to express their views in front of other members or their employers. Thus to seek more diverse opinions from participants, the interview was originally designed to be conducted in a one to one setting. However, in practice, some schools asked if their participants could be interviewed at the same time and in this way they felt that they could share opinions and be more relaxed, and that also they had a tight schedule for the school day. Out of consideration and respect for their opinion, the researcher agreed with this requirement. Nevertheless, methodological issues needed to be considered. As Flick (1998) indicates, during interviews that involve more than one interviewee, researchers should be aware that conflicted opinions might not be presented by participants. Thus during interviews, the researcher created more

opportunities for participants to talk through prompting questions when the researcher thought that participants might not express themselves sufficiently. Please see Appendix D to G for the interview schedule in English and Chinese.

4.5 Sampling

To achieve congruence with a qualitative approach, sample size and sampling procedure should be considered. Qualitative research looks more for diversity, depth and uniqueness, on which basis it is not a necessity for the sample to statistically represent a population (Cohen *et al.*, 2011). Thus qualitative sampling is not as strict and structured as quantitative sampling that usually uses probabilistic techniques for achieving generalisation (Merriam and Tisdell, 2016). Snowball sampling is often adopted in qualitative research to identify participants. Moser and Korstjens (2018: 10) define snowball sampling as "selection of participants through referrals by previously selected participants or persons who have access to potential participants". With an insider's referrals, researchers can efficiently locate and access people who are interested in their research. For this research, to find schools and participants in Scotland, the researcher sought help from an insider with knowledge of the East Ayrshire education system. This insider was recommended through the professional network of the researcher's supervisor as having an interest in, and responsibility for, supporting children with additional needs. Similarly, an insider with knowledge of the education system of Guangzhou introduced the researcher to schools who were interested in participating in the research.

Sample size in a qualitative research is another concern. Creswell (2014) argues that qualitative research should focus on exploring socio-cultural meanings rooted in data rather than the data validity required by quantitative research. Thus the sample size for the questionnaire in this research should not be considered as representing a population. Indeed, qualitative sampling is a gradual, flexible and exploratory process rather than the predetermined process that usually happens in quantitative research (Flick, 2007). In this research process, questionnaires were circulated through a snowball sampling, exploratory procedure. In Scotland, questionnaires were sent to the insider in the East Ayrshire education system, and then the insider recommended questionnaires to primary teachers in East

Ayrshire that she met while working. In the meanwhile, it was found that Scottish primary schools could also be accessible through email, thus the researcher decided to send emails with attached teacher questionnaires to head teachers in all 42 public schools in East Ayrshire (although there was no reply in this case). Unlike East Ayrshire, schools in Guangzhou could not be accessed through email and it was impossible to physically visit all the hundreds of primary schools in Tianhe, Guangzhou, due to time and finance restraints. The only way to access schools was through the insider of the Guangzhou education system. The insider referred 3 primary schools to the researcher, the researcher sent questionnaires to the three head teachers, and then the head teachers recommended questionnaires to their teachers. In this gradual process, it was difficult (or impossible) to achieve absolute equivalence in terms of procedures and questionnaire response numbers due to a variety of country differences and practical reasons (including different school sizes, teacher numbers, unpredictable response rates, and accessibility in East Ayrshire and Guangzhou). Indeed, Gómez and Kuronen (2011) note that a lack of standardised data information in different countries results in the situation where data in different countries are gathered and presented differently.

Finally, in this gradual and exploratory sampling process, the researcher gained 65 questionnaire responses in Guangzhou and 35 questionnaire responses in East Ayrshire (see Table 4.2). One reason that the researcher gained more responses from far fewer schools in Guangzhou and fewer responses from far more schools in East Ayrshire might be that primary school size in China is much larger than that in Scotland. Furthermore, Gómez and Kuronen (2011) argue that, in a qualitative study that compares countries, it is more important is to achieve equivalence in terms of language and to obtain rich, diverse and in-depth data than to achieve a certain number of participants. In this research, the questionnaire language was carefully considered (see discussion of translation in Section 4.3) and it was targeted at primary teachers in China and Scotland. The questionnaire data were sufficient as the purpose was not to achieve generalisation but to provide a snapshot of general and background information to inform the rich, diverse interview data and relate this by analysis to specific Chinese and Scottish societies.

	Scotland	China
Number of teachers	35	65

Table 4. 1 Participants of questionnaires

For the interview, sample size cannot be too small to make a claim with sufficient evidence or too large to hamper the in-depth analysis imbedded in a constructivist approach (Sandelowski, 1995). Morse (1994) suggests that a minimum of six participants could be involved in a phenomenological research that focuses on the essence of experiences. The estimated sample number prior to field work is tentative and can be adjusted according to research data in practice (Boddy, 2016). Therefore, in the research design, the researcher intended to interview appropriately 10 participants (including around 7 teachers and 3 literacy coordinators) in each country. In actual practice, with relatively different school responses, the sample size of interview in China and Scotland achieved relative equivalence (8 teachers and 5 literacy coordinators in Scotland, 7 teachers and 4 literacy coordinators in China). Table 4.2 presents participant details in the interview. The next section discusses how the researcher analysed the questionnaire and interview data.

	East Ayrshire, Scotland	Guangzhou, China
Number of participant schools	6 primary schools	3 primary schools
Number of participants for teaching	8 teachers	7 teachers
Number of participants for literacy coordination	2 principal teachers, 1 deputy head teachers, 2 head teachers	1 grade principal teacher, 3 deputy head teachers
Number and form of interviews	7 one to one interviews 3 one to two interviews	7 one to one interviews 2 one to two interviews
Number of total Participants	13	11

Table 4. 2 Participants of interview

4.6 Data Analysis

In general, qualitative data analysis is deemed as "classification and interpretation of linguistic (or visual) material to make statements about implicit and explicit dimensions and structures" (Flick 2014: 5). As noted above, it is a process of deconstruction and reconstruction of data which is "like peeling back the layers of an onion" (Creswell 2014: 195). In this process, the researcher needs to select, cut and then synthesise important information to better answer the research questions. Unlike quantitative data analysis, which tends to be more deductive, Sarantakos (2013) points out that qualitative data analysis tends to be mainly an inductive procedure which seeks to explain a social phenomenon from the individual to the general. Thus, this inductive process mainly looks for a fundamental structure of experiences of participants, and meanwhile, individual differences should also be looked at to extend the possibility of the research and make use of the data to a large extent.

4.6.1 Coding the Qualitative Data

Creswell (2014) creates a simplified model to explain the general process of qualitative data analysis: 1. all raw data should be organised and read through; 2. data can be coded by hand or computer software; 3. themes and descriptions are categorised; 4. interrelationships and meanings of themes and descriptions are analysed and interpreted; 5. validity needs to be calculated. Creswell (2014) notes that this is a basic and general model that underpins analysis of qualitative data. In actual practice, however, every qualitative researcher could have his or her own means of data analysis. It could be repeating this process until no new information is found and it is up to the researcher to consider at which point the analysis repeats and stops. It could also be that the researcher uses this model to analyse all transcripts together until a pattern is found or the researcher analyses transcripts one by one and makes comparisons to find a pattern. Tesch (1990: 97) suggests that qualitative analysis should be conducted more "artfully" and "playfully" rather than rigidly and the researcher should decide the way that is the most appropriate to explore the qualitative data.

In this research process, the researcher was instructed by Creswell's model for qualitative data analysis, and at the same time the researcher integrated her own way when her own meaning-making process was required.

Firstly, the researcher familiarised herself with the data and formed a general awareness of what is repeatedly addressed by participants and what is important through listening to the audio recordings and reading transcripts. This is pointed out as the first essential step for the emerging of initial ideas through coding and categorising the qualitative data by Creswell (2014).

Secondly, the researcher then manually coded the research data line-by-line, as in this way equal attention could be paid to all data to avoid missing any important issues. Codes were not just derived from the data, but also from the literature review. However, most of the time, codes or themes were mentioned in both the data and the literature (see Table 4.3 An example of coded transcript). Sometimes one sentence could be coded into two or more codes. For example, one Scottish teacher talked about how he organised groups for readers of different abilities. This was coded as "mixed grouping", but also "differentiation" and "allowing freedom to learn" because in this mixed group strategy gifted readers were provided with different levels of reading texts and activities and also more freedom to achieve the learning goal. The researcher kept a memo to remind herself of any thoughts, points and issues that arose from the coding process. Highlighters and Post-it bookmarks of different colors were used to organise useful excerpts and codes.

Thirdly, the researcher often re-read and re-coded those transcripts to avoid only looking for codes and themes that the researcher was familiarised with and that matched the pre-set coding framework. From the view of Sarantakos (2013) and Creswell (2014), a constructivist should understand the complex, dynamic nature of a social phenomenon and diverse experiences of people under their specific socio-cultural context. This implies that the coding and categorisation process should also take account of different or even contradictory beliefs, ideas and experiences of participants. There should be always an awareness for an open attitude and not coding through cherry-picking. For example, there are codes "inborn ability" and "nurtured ability" to present teachers' two different beliefs for gifted reading ability. These two codes or issues were both organised into the main theme - *Teachers' conceptualisation of HARs*. For another example, although there is a same code/theme - School Education - in the data with Chinese and Scottish teachers, the meanings and descriptions of school education are complex and not the same in each country. The analysis

of a theme in this study includes contradictory views of the participants. This means that one code or theme could have different meanings for different participants.

Fourthly, the researcher counted numbers of codes and numbers of participants for each potential theme, identified recurring issues, and categorised them into themes. The researcher used a general framework which was constructed by her three research questions, as in this way the researcher found that codes were easily categorised in terms of data relating to the three research questions and the research questions could then be clearly answered. This means that the three main themes of the pre-decided framework (both for data in China and Scotland) are

1. *Teachers' conceptualisation of HARs,*
2. *Reading resources used for HARs,*
3. *Teaching of HARs.*

The researcher repeated the coding and categorising process using Creswell's model, analysing most of the transcripts together and testing the generated pattern in the rest of the transcripts to see if it could still work or if there was a need to revise the pattern and add new information. The researcher focused on the overall pattern but she also attempted to look for other salient answers regarding the current practices of gifted readers which could have implications for future research. For example, most of the participants perceived gifted readers by their cognitive abilities, however, the affective ability – sympathy, was mentioned by one Scottish teacher. This salient aspect was also analysed and woven into Scottish teachers' perceptions of gifted readers by the researcher. This process ended when no additional issues, points or information were found.

Interview questions	Transcript	Codes	Sub-themes	Main themes
Where do you think this kind of ability comes from?	I think certainly in terms of the pupils with language, every child I would say was highly able just stems from reading from a very early age at home, and mums and dads really encourage them. Certainly the children I worked with, every single one I have said to their parents, "You know, your child is very, very talented in this aspect." All they have said is because they read from a very young age… So I think a lot might be to do with the relationship they got with the teacher as well, and help them to challenge themselves with reading book… (ST1)	Parent influence/Home environment Teacher influence/ Teacher-student relationship	Home environment School education	1. Teachers' conceptualisation of HARs 1. Teachers' conceptualisation of HARs

Table 4. 3 An example of coded transcript

4.6.2 Transcription

Transcription is an important step that requires careful engagement in the analysis of language data, although it may easily be overlooked in qualitative research (Lapadat and Lindsay, 1999). The process of transcribing is not so transparent, mechanical and straightforward as it may seem. As noted by Duranti (2007), it involves a select activity that translates spoken or visual information from recordings into written texts. As discussed at the beginning of this chapter, methodological congruence must be achieved in every step of

the research. Transcription, thus, also needs to be considered in order to be congruent with the research questions and aim. Rapley (2007) points out that the level of detail in transcription is a core issue that influences the analysis and the result. Brief notes and verbatim transcription are among those approaches that are based on different levels of detail. With the purpose to suit the research aim, the approach of verbatim transcription was adopted in the analysis of interview data as it enabled the researcher to analyse detailed and full written texts. When transcribing, the researcher moved back and forth between transcripts and recordings and also listened to the recordings several times after the transcription to make comparisons between the audio and written texts. This process was intended to enable the researcher to fully write down the conversations and ensure that no information and words were overlooked (see Appendix H and Appendix I for excerpts from the transcription).

4.6.3 Research Bias

Fraenkel and Wallen (2000: 158) define the validity of a study as "the appropriateness, correctness, meaningfulness, and usefulness of the specific inferences researchers make based on the data they collect". Research bias from qualitative researchers can often hamper this kind of validity. Researchers may look for data or participants that can lead to their preferred findings, or they may overlook information that is considered opposite to them. While it is acknowledged that a research cannot be totally objective and neutral as perspectives of all human beings are constructed and constrained by their own experiences, languages, cultures and backgrounds (Camic *et al.*, 2003), there are still effective approaches to address the issue of research bias arising from qualitative research. Reflexivity, which refers to the fact that the researcher often thinks and reflects critically on the arguments and potential bias, is an effective strategy to decrease research bias (Johnson and Christensen, 2012). In this research process, the researcher was very careful and often reflected on her interpretation of the data in terms of whether she had done this appropriately and meaningfully. It was especially difficult for the researcher to analyse the data collected in China because the researcher needed to be very self-aware of any personal presumptions and sentiments regarding education in China and that every finding should be fully grounded in the data. For example, literacy classes in China were easily stereotyped as teaching through whole-class lecturing and using literacy textbook as the main reading resource, however, it could not be assumed that this was the case in every classroom. To address this issue, the researcher often looked back at her data analysis process and writing to reflect if, at that time, she had interpreted the data and generated findings appropriately.

4.6.4 Dealing with Partial Response in the Questionnaire

Sarantakos (2013) points out that partial response in the questionnaire is inevitable. There are many reasons for this: it may be that the participant does not understand the question, feels uncomfortable about answer, or cannot complete it due to a lack of time. The researcher attempted to avoid issues in relation to wording through piloting the questionnaire. However, it was still found that a few questionnaires collected both in China and Scotland were not fully completed. Thus there was a need to consider how the questionnaire data could be addressed in order not to influence the research validity. One strategy to deal with partially completed questionnaires is to regard them as invalid. However, in this research, for some questionnaires among all 30 items there were just one or two items that were not answered. Thus, to respect the time spent by participants and to utilising the available data to the maximum extent, the researcher mainly adopted the strategy of presenting the responses by frequency instead of by quantity. In this way the total number for calculating frequency varied according to the number of people who responded to a question. Thus the frequency of each item in the questionnaire can still be comparable, and furthermore, the findings of China and Scotland presented by frequency can also be comparable even though participant numbers were different in each country.

4.7 Ethical Considerations

Ethical values need to be a thread running through the whole process of research (Hesse-Biber, 2017). This is also required by the British Educational Research Association (BERA) (2011) that indicates that all researchers should take full responsibilities to ensure that the research is conducted in accordance with all ethical protocols and values. The reason for a responsible attitude towards ethics by the researcher is that the research may influence a wide community of people, ranging from participants, practitioners, other researchers, policy makers, organisations and the researcher himself or herself. Especially, it might exert negative impact on participants both psychologically and mentally if ethics is not sufficiently considered. Thus, the research needs to ensure that the human rights of participants are protected and participants will benefit from participating in the research in some sense, to meaningfully address a problem, and to appropriately communicate so that the society can

access and benefit from the findings. Birch and Miller (2012) point out that maintaining a good professional relationship and mutual trust with the participants is critical for the researcher to gain rich and quality data. In the whole process, perhaps the most difficult part is to gain consent from appropriate participants because this relies on participants and their institutions making a decision based on varied factors, such as their understanding, interests, schedule and commitment. In addition, even though participants consent to attend, it is still necessary to have the researcher's active engagement so that participants are willing to share their true and in-depth opinions and experiences. Thus there is need for the researcher to make participants fully understand the importance of the research and the meaning of their attendance.

Several strategies were employed to make sure that the rights of participants were protected. Firstly, before starting to contact possible participants, the College of Social Sciences Ethics Committee at the University of Glasgow reviewed the Ethics Application Form that includes details about the field work process and research tools (see Appendix J for form of approved application). Secondly, consent for conducting the research was sought through the targeted administration area: East Ayrshire and its schools. As there was no counterpart in Guangzhou to issue a consent letter for conducting research, consent was directly gained through the local schools. Thirdly, a Participant Information Sheet was sent to participants to inform them of the purpose and process of the study, to ask for their willingness to attend and to reassure them that they could withdraw without giving any reason at any point (Powney and Watts, 1987) (see Appendix K and L). A consent form was also presented for them to sign. They were assured that participation was totally voluntary. Having obtained the participant's written signature, the researcher could start the data gathering procedure. Thirdly, names of participants and schools were kept anonymous and participants' personal information was destroyed. In presenting data, each participant name was coded into letters and numbers. Fourth, data were only accessible to the researcher, her supervisors and a colleague translator. All the data will be destroyed within five years after the completion of the Ph.D. project. Fifth, it is the intention of the researcher to publish and publically present findings and the entire thesis will be sent to any participants who are interested in it.

4.8 Conclusion

This chapter has presented the constructivist paradigm and qualitative methodology that underpinned and instructed the whole research process. This study also borrowed ideas from comparative research in order to better understand the data in both countries. As qualitative analysis and comparative research both inform the construction of social issues, experiences and perceptions from a particular social-cultural context, this research aims to compare and synthesise Chinese and Scottish teachers' conceptualisations and teaching practices for gifted readers by relating them to the specific cultures, societies, education systems, and curriculums in China and Scotland. The two methods for collecting data were the questionnaire and the interview. While the questionnaire was intended to access a wider range of teachers to generate a general background, the interview was designed as the main strategy for gathering data for qualitative analysis to explore primary teachers' and literacy coordinators' in-depth and diversified perspectives for teaching gifted readers. The terms "making comparison or "compare" in this research were mainly used to describe how the researcher explored similarities and differences between Chinese and Scottish teachers' conceptualisations and practices in teaching gifted readers. The comparison of the questionnaire and interview data collected in China and Scotland can promote understanding of gifted education in each country as well demonstrate how a particular context (e.g., an Eastern context or a Western context) can influence issues regarding gifted education.

Chapter 5 Preliminary Study: Findings and Analysis from Questionnaires in China and Scotland

5.1 Introduction

To explore the research from an empirical perspective, the previous chapter presented and justified the methods that employed for data collection. These methods included a questionnaire and interview. Chapters 5-7 present findings and initial analysis drawn from the data collected by these methods.

After electronic and print questionnaires were sent to primary schools in East Ayrshire, Scotland and Tianhe District of Guangzhou, China, in total 35 Scottish teachers and 65 Chinese literacy teachers responded through the print questionnaire with no teachers responding via the electronic version. As this research is qualitative, instead of generalising findings through statistics, the purpose of analysing these questionnaire responses is to provide a snapshot of general and background information about teacher participants. It could then shed light on the main phase of the study – an in-depth exploration through the interview. In this chapter, questionnaire data in Scotland and China are discussed in Sections 5.2 and 5.3, respectively.

The term 'highly able' was used by Scottish teachers rather than the term 'gifted' or 'talent', thus 'highly able reader (HAR)' was adopted instead of 'gifted reader' across the questionnaire and interview schedule for Scottish participants. The term 'highly able reader (HAR)' was also adopted in Section 5.2 of this chapter and the next chapter for presenting findings in relation to Scottish participants.

5.2 Scottish teachers' Responses

5.2.1 Participants

The Scottish participants were predominately female (94%) and experienced teachers who had taught for more than five years (69%). Eleven participants were novice teachers who have 0-5 years teaching experience. Most of the classes taught by these teachers had 20-30 pupils in each class (94%). All teachers had at least one qualification in teaching. A majority of the teachers (66%) had a bachelor's degree related to education, and teachers without a bachelor's degree in education all held a Postgraduate Diploma in Education.

Teachers were asked whether they had attended courses or training in relation to general gifted education, children's literature, and specific gifted education events regarding literacy and language (See Table 5.1). The result showed that only 3 out of 35 Scottish teachers had attended a previous training course relating to gifted learners, and none of them had attended a training course that specifically talked about teaching HARs with regard to literature and literacy. Almost half of the teachers (40%) had attended courses or training in children's literature. This indicated that, although there is a well-designed legislative framework for gifted education in Scotland, in practice, most Scottish teachers have had few opportunities for learning specifically about education for highly able learners and this raised questions about where teachers developed specific professional knowledge for this group of children. For example, was it covered within other courses but not named specifically as dealing with high ability?

	General Gifted Education	Children's Literature	Gifted Education Specific to literacy and Language
Yes	3	14	0
No	32	21	35
Total	35	35	35

Table 5. 1 Number of Scottish teachers who have attended specific training or courses

5.2.2 Scottish Teachers' Definitions and Perceived Characteristics of HARs

Primary teachers were asked to record their personal definitions of HAR in the questionnaire. Thirty-four of them gave their answers. Responses were categorised into themes and the number of teachers referring to each particular theme was calculated. Three main themes arising from these qualitative data are presented in Table 5.2.

Definition of HARs	**Number of teachers referring to themes**
Read at a level higher than their peers/their chronological age	22
Able to decode and comprehend texts well	20
Use higher order thinking skills	12
Able to apply what have been read to writing and oral activities	3
Have large potential to read well	1
Read with enjoyment	1

Table 5. 2 Scottish teachers' definitions of HARs

In Table 5.2, at first, it can be seen that it was common for teachers to identify HARs through comparison to the peers. It could be "*over 2 years above chronological age*" (QST14), "*3+years above chronological age*" (QST19), or "*significantly above the level of their peers*" (QST6). The core difference for these perceptions was the extent to which the ability of HARs was higher than that of the age group. The following responses give some examples of the teachers' approach to age peer comparison:

> *[A highly able reader is a] child with a reading age 3+ years above chronological age. (QST19, November 2016)*
>
> *[A highly able reader is] a reader that is able to decode and comprehend written texts at a level above that which is expected for their chronological age and significantly above the level of their peers. (QST6, November 2016)*
>
> *[A highly able reader is] a pupil who has a reading age higher than their chronological age, who engages in reading frequently. There must be an equally high level of understanding. (QST4, November 2016)*
>
> *[A highly able reader is] a reader who is performing above average with his/her reading age band. He/she has a range of reading strategies and reads for*

enjoyment at home. He/she reads with understanding and is able to provide evidence from the text to support answers. (QST18, November 2016)

This comparative approach of defining and identifying HARs is proposed by researchers such as Catron and Wingenbach (1986) and Dole and Adams (1983), who also put emphasis on gifted learners' above-average ability for definition. This is also shared by *A Pentagonal Implicit Theory* proposed by Sternberg and Zhang (1995) to involve some comparison in assessment in the selection of gifted children. Indeed, there is inevitably a more or less type of comparison in any assessment. Although there was no single a definition for the group of HARs, through performance comparison among peer groups, it might be more practical and feasible for teachers to recognise gifted learners in the classroom.

Second, through comparison, teachers considered that HARs were more proficient in basic language skills – decoding and comprehension (57%). They stated that HARs were able to "*visualise the words without sounding every sound*" (QST23), "*understand more complex vocabulary*" (QST21), and "*read fluently and show a sound understanding of various texts*" (QST10). They were described as being able to apply their knowledge learnt from reading into writing and oral development (9%).

Third, as shown in Table 4.2, higher order thinking abilities were perceived to be of great importance for gifted reading abilities (34%). Bloom et al. (1956) note that a high level of thinking, which includes application, analysis, synthesis and evaluation, should be one aim of education. This was widely recognised in the responses from Scottish teachers. A HAR was seen as being able to summarise, infer, evaluate, criticise texts, and utilise previous knowledge for reading, and also apply what has been learnt from reading to other activities:

- Inferential thinking: "*pick up on subtle inferences and identify the writer's craft*" (QST2); "*make predictions and discuss what they read*" (QST15).
- Application: "*use learning in new contexts*" (QST12); "*relate prior experiences to new tasks/texts*" (QST22); "*transfer to other contexts*" (QST33).

- Critical thinking: "*engage critically with text*" (QST29); "*question what they have read and can discuss the text*" (QST27).
- Evaluative ability: "*answer a range of literal, inferential and evaluative questions with ease*" (QST12).

In addition, one teacher noted that some of readers should still be regarded as HARs, though they might not perform well at the moment, as long as they had potential and "*could be working ahead of their age peers*" (QST5). Many research studies (see, for example, Gagné 2004; Landis and Reschly 2013; Ryan and Coneybeare 2013; Wright et al. 2017) recognise the phenomenon of underachieving gifted students. This phenomenon can be explained by considering Gagné's DMGT model (2004) and Ziegler's Actiotope Model of Giftedness (2005): various factors in the environment can influence the development of a gifted learner, and thus environment can either support or hinder the development of giftedness. Indeed, society and culture, family background, schools and adopted educational models can all attribute to the development of a learner, whether toward a supportive or toward a discouraging direction. Therefore, gifted readers might not demonstrate high reading performance and could be regarded as underachieving gifted readers due to various environmental factors, such as a lack of reading resources in their early family environment or inappropriate reading instruction at school.

To get an overview of teachers' conceptualisation of HARs, teachers were asked to indicate their degree of agreement for 34 items, with each of them stating one aspect of the characteristics of HARs. Among all the characteristics, teachers agreed that HARs "read above average level" (97%) and demonstrate higher order thinking abilities such as "hav[ing] the ability of inference" (94%), "understand[ing] and synthesis[ing] ideas in a comprehensive way" (97%) and "[being able to] relate prior experience to understand texts" (94%). Scottish teachers' conceptualisation of HARs' characteristics was in accordance with how they defined a gifted reader, as previously discussed. This implied that in the interview HARs' above average abilities in reading and higher order thinking might also be highlighted by Scottish teachers.

5.2.3 Teaching HARs through Using Texts

When asked if and how they chose reading materials for HARs, almost all of the Scottish teachers (89%) stated that they intentionally chose them to address the needs of HARs. Most of the teachers provided reading materials for HARs by considering language complexity (89%), themes in texts (77%) and setting a reading environment to allow freedom to read (71%). In addition, some teachers (37%) considered suggestions from schools and government for text provision (for example, the First Minister's Reading Challenge was considered in schools) and only one teacher indicated that she did not particularly select reading materials for HARs. This indicated that many teachers had awareness of and knowledge about how to engage HARs according to their readiness and interests.

The majority of the teachers (86%) stated that they often took advantage of technology such as computers to facilitate their teaching of children's literature to HARs. Regarding the question about how often teachers used certain forms of children's literature to teach HARs, Scottish teachers' responses showed that they used print scheme books very often, followed by print trade books and print textbooks. Many of them also used electronic books (66%). This was consistent with their statement for utilising technology in the classroom. However, digital app books were seldom used in the classroom. It appeared that traditional print books still occupied the classroom most of the time, accompanied by some reading on screen with very few digital app books being used to extend HARs or other children's reading experiences.

The next question focused on the availability of good quality children's literature in the classroom. Scottish teachers' responses showed that, in general (80%), there were texts for children's literature of good quality available in the classroom for teachers and children to use. Many teachers (66%) demonstrated that these texts were adequate to meet the children's learning needs. In total there were seven teachers (20%) stating that provision was not adequate or there was no good quality children's literature available in the classroom. As children's literature plays a key role in children' cognitive, affective and social development (Halsted, 2009), it is critical for all schools to maintain an adequate supply of children's literature of good quality for their teachers and students to use.

Regarding abilities that teachers focused on for developing HARs, most of the teachers (57%) focused more on reading for understanding, such as interpretation, generalisation and inference. Very few of them (9%) stated that they emphasised basic language skills and literary knowledge. Higher thinking skills, such as creative thinking and aesthetics, also received relatively little attention from the teachers. In addition, there were just two teachers that indicated no particular teaching focus for HARs.

Furthermore, teachers were asked about their adopted strategies to address learner diversity in the classroom in a multiple choice box. The following figure (Figure 5.1) presents how many teachers used each strategy to accommodate the needs of HARs.

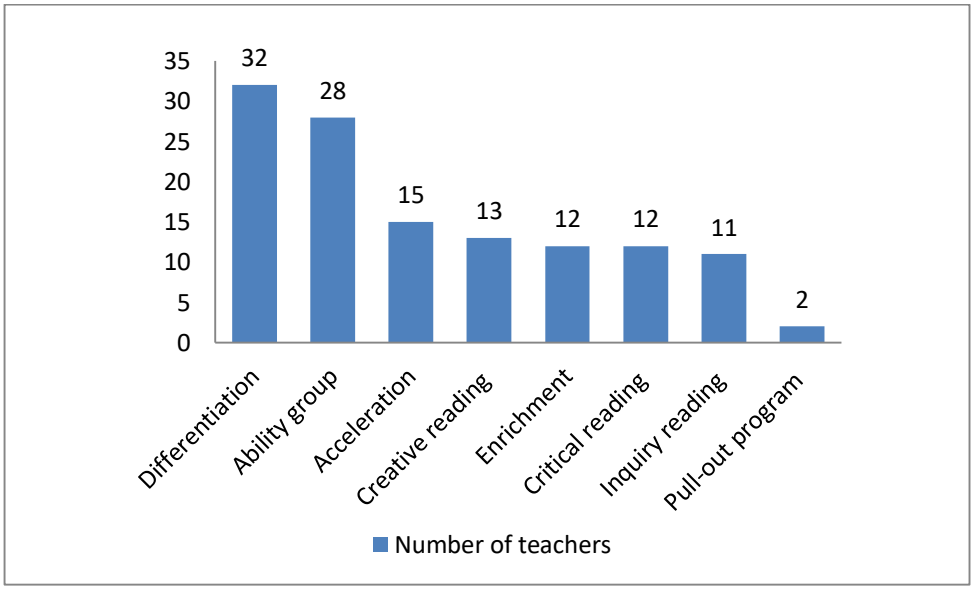


Figure 5. 1 Number of Scottish teachers who used each strategy for HARs

It appears that differentiation and ability grouping were the most popular strategies used by almost all of the Scottish teachers (91% and 80%, respectively). Almost half of the teachers also used acceleration, enrichment, critical reading, creative reading and inquiry reading. Pull-out programmes were used by very few teachers (6%). In this research, a pull-out programme refers to when children are pulled-out from the mainstream class to a special class to receive additional instruction to meet their needs (Dimitriadis, 2011). However, there might be different interpretations for pull-out programmes among Scottish participants, which would influence the accuracy of the research findings. This is a common problem for

questionnaires as there is no opportunity for researchers or participants to explain further how they understand specific terms (Johnson and Christensen, 2012). Thus, further interviews could help clarify their use of language. The questionnaire also asked how teachers would organise HARs into mixed-ability groups to allow them to work collaboratively with children of other abilities. The analysis showed that a majority of them (89%) also organised heterogeneous groups and only two teachers stated that they seldom used this strategy. It could be inferred that most of the Scottish teachers used ability grouping and mixed-ability grouping on different occasions, depending on the different strengths and weaknesses of each strategy. Indeed, in the place for open-ended answers, some teachers shared ideas about these two organisational strategies:

> *Homogenous - can accelerate learning*
>
> *Mixed - can use their skills to help others*
>
> *I use both strategies in my class. (QST 28)*

> *I feel that there is a place for both types of groupings dependent on the context of learning. I tend to use both. (QST 12)*

> *The child would be given a reading book suited to his/her needs, however would also work alongside the highest ability group in the class to encourage the social aspect of reading. (QST 31)*

> *Both have their advantages.*
>
> *Mixed - allow for more able readers to explain/support others which get them thinking about the text more.*
> *Homogeneous - provides healthy competition and allows them to work collaboratively on activities. (QST 19)*

It could be seen that, while ability grouping could provide challenging opportunities for HARs, peer support and collaborative work could be addressed through mixed-ability grouping. For these teachers, this meant that cognitive and social aspects for all children could be developed through the use of a flexible grouping strategy.

The next question examined how teachers assessed reading development of HARs. The result indicated that classroom observation and talking with the pupil were used by almost all of the teachers (94% and 91%, respectively). Standardised tests were adopted by 22 teachers for HARs' assessment. In addition, some teachers considered using feedback from parents and other peers (40% and 11%, respectively). It seems that there were varied forms of assessments used by teachers and these forms of assessments could provide a relatively full insight into HARs' development from different perspectives.

The questionnaire also intended to explore teachers' thinking about the flexibility of the curriculum as only a flexible curriculum can allow freedom and contextualisation for teaching and learning. This provided an explanation of the teachers' practices for HARs. In this research, the majority of the Scottish teachers (83%) considered that Curriculum for Excellence has provided flexibility for them to develop different abilities of children. Only three teachers disagreed and two teachers were not sure that this curriculum had provided them with flexibility. The next stage of analysis relates teachers' understanding about the curriculum to classroom practices for HARs. It is important to understand whether teachers were comfortable with their teaching of HARs and then to find out what factors influenced their levels of comfort (this is discussed in Section 5.4). According to the result, as presented in Table 5.3, many teachers (71%) felt very comfortable or comfortable about instructing HARs in their classrooms. However, 24% were neutral, with 6% feeling uncomfortable. The data also indicated that most of the teachers (94%) thought that the needs of their HARs had been satisfied.

	Percentage of Scottish teachers
Very comfortable	18%
Moderately comfortable	53%
Neither comfortable nor uncomfortable	24%
Moderately uncomfortable	6%
Very uncomfortable	0%

Table 5. 3 Scottish teachers' feeling about teaching HARs

Asking open-ended questions and coding answers about factors that helped or hindered teachers' teaching of HARs helped to form a full picture of the experience of this group of Scottish teachers. Table 5.4 provides all the answers, categorised in a descending order:

Factors that benefitted teachers' teaching for HARs	**Number of teachers**
A variety of reading resources	21
Support from colleagues and outside agency	12
Effective monitoring procedures and assessment	7
Teachers' professional knowledge regarding gifted education	5
Collaboration with parents and the pupil himself/herself	4
Internet access and technology support	3
Factors that hindered teachers' teaching for HARs	**Number of teachers**
Lack of time	24
Lack of reading resources	10
Lack of support staff	10
Lack of professional knowledge regarding gifted education	7
A tendency to focus more on the less able children	2

Table 5. 4 Factors that influenced Scottish teachers to develop HARs

In general, Scottish teachers felt that a variety of reading resources as well as support and assistance from colleagues and other professionals outside of the school were the most helpful factors in their mainstream classroom teaching. Meanwhile, a lack of time, a lack of support staff and a lack of reading resources were the most frequently mentioned issues that exerted negative impact on Scottish teachers' practices for HARs. It could be seen that there were overlapping issues revolving around both the positive and negative factors. This indicated that these overlapping issues, which mainly included reading resources and other supportive professionals, were of great importance for the teachers' effective teaching of HARs.

Reading resources, as described by many teachers (60%), could be good quality reading scheme or programme, online texts, or print books stocked in the classroom or in the library; all were regarded as very supportive for their teaching of HARs.

Bug Club [which is an online reading program that provides different levels of texts on screen and allows pupils to assess their reading development online] Wide range of paper books in library. (QST 26)

School's reading scheme – children can progress at their own level. (QST 27)

Modern up-to-date reading programme.

Well stocked library. (QST 30)

Our school reading scheme Bug Club - it has a variety of ability appropriate reading levels. Due to it being an online scheme it allows for instant differentiation. (QST22)

Several issues, such as an overloaded curriculum, too many pupils in the class, and consequently too many different kinds of additional needs, as well as the simple indications of lack of time, were categorised under the code "lack of time" because they all required a large amount of teachers' time to fulfil:

Time restrictions due to an 'overloaded curriculum'. (QST 24)

No time for one-to-one time to challenge and discuss texts at a high level. (QST 26)

Meeting needs of wide range of abilities in the class. (QST 9)

Most of these issues related to educational resources, whether about reading materials, or a shortage of teaching staff and professionals or ICT support. It seems that the extent to which educational resources are sufficient influences teachers' practices for gifted children, which echoes Ziegler and Stoeger (2017) as they highlight the importance of educational resources in supporting the development of gifted learners. This is discussed further in the following chapters.

5.3 Chinese teachers' Responses

5.3.1 Participants

Again, most of the Chinese participants were female (97%) and experienced teachers who had taught more than five years (75%). The numbers of pupils in these primary literacy teachers' classes ranged from 38-50 and the average number of pupils for all the classes was 43. It could be seen that the class size of these classes was almost twice that of the investigated Scottish primary schools (20-30 pupils/class). All of the Chinese teachers received higher education, either related to or unrelated to education. Fifty-four of them had bachelor's degrees and the rest of them held a college diploma (3%) or master's degree (14%).

Regarding courses and training received by Chinese teachers, Table 5.5 shows that very few of them had opportunities to learn about general gifted education and specific gifted education in relation to literacy and language. The reason for this might be that gifted education was not systematically addressed in China and thus there were rarely courses provided regarding gifted education when teachers received higher education or training for continuing professional development. In terms of children's literature, nearly half of the teachers indicated that they attended courses or training for this subject, which should raise teachers' awareness of using children's literature to support readers' development.

	General Gifted Education	Children's Literature	Gifted Education Specific to literacy and Language
Yes	1	31	2
No	64	34	63
Total	65	65	65

Table 5. 5 Number of Chinese teachers who have attended specific training or courses

5.3.2 Chinese Teachers' Definitions and Perceived Characteristics of Gifted Readers

Chinese teachers' answers were coded and categorised and the results are presented in Table 5.6. The table shows that there was no consensus on the definition of gifted readers as there was no single perspective that most of the teachers addressed to define a gifted reader.

Definition of gifted readers	**Number of teachers referring to themes**
Read at a level higher than their peers/their chronological age	35
Able to decode and comprehend texts well	23
Use higher order thinking skills	10
Demonstrate large quantity of reading	9
Have passion on reading	7
Demonstrate ability for empathy	2
Read at an early age	2

Table 5. 6 Chinese teachers' definitions of gifted readers

The teachers' definitions emphasised different aspects of gifted readers. As with Scottish teachers, the most frequent method to define and recognise a gifted reader was through assessing their reading abilities and then comparing with their same-age peers (54%). Gifted readers, as perceived by some Chinese teachers, read large volumes and could demonstrate a range of reading abilities from decoding and comprehension to higher order thinking skills. Below are some definitions by the Chinese literacy teachers:

> *Compared to their same-age peers, gifted readers are more proficient at reading, or demonstrate a special mind set (QCT 1).*

> *[Gifted readers demonstrate] more sensitivity towards language and words than others. They have good memory and strong ability of oral expression. And they have abilities for imagination and creative thinking based on texts. (QCT 46)*

Gifted readers refer to children who have particular abilities in reading. They demonstrate higher abilities than their peers in terms of comprehending texts, processing information and critical thinking. (QCT 38)

1. Be obsessed in reading, have great interests in reading, and be able to read quickly. 2. Be able to empathise and experience the feeling and emotion in texts. 3. Be able to reflect through reading texts and think independently. (QCT 27)

In addition to those cognitive abilities, several teachers also looked into affective abilities of gifted readers. This included a passion or interest in reading (11%) and ability of empathy towards characters in texts (3%). As all the Chinese teachers focused on reading abilities that were demonstrated by readers, one neglected issue was that there were potentially some underachieving learners in terms of literacy development. This might lead to an ignorance and exclusion of underachievers in classroom practices. Therefore, there is a need for the teachers to consider the potential of readers as well as focusing on demonstrated abilities.

5.3.3 Teaching Gifted Readers through Using Texts

Regarding how teachers select reading materials to suit readers' readiness and interests, some Chinese teachers (26%) indicated that they did not particularly select these for their students. The reason for this might be that they needed to use a particular textbook in the class and there was little time and freedom to choose other reading materials. For those forty-four Chinese teachers who particularly selected texts for students, nearly half of them considered language complexity and themes in texts, and some considered suggestions from schools and the government (20%). One strategy that most literacy teachers (68%) adopted was organising a reading environment and providing students with freedom and flexibility to read books. In the Chinese context of teaching practices, this was a more effective way that both addressed learner diversity and saved time for literacy teachers.

The previous question focused on perspectives from which teachers considered matching appropriate texts for children. This section explores what materials they used. The results showed that generally what Chinese teachers used mostly was print textbooks (93%), which was followed by the use of print trade books (89%) and print scheme books (78%). On the other hand, digital reading was not as popular as print books in the classroom with less use

of electronic texts (52%) and limited use of app books (29%). In terms of the availability of texts of children's literature of good quality in the classroom – either print texts or digital texts – nearly 54% of the teachers considered that they had these texts, with 40% thinking the contrary. Among those holding positive answers, many thought that the supply of these quality texts was inadequate (26%) and 6% were not sure about this. To view the situation as whole, for most of the classrooms, there was a shortage of children's literature of good quality available for children to read. This situation would impede the development of gifted readers as well as that of other children.

Regarding what abilities that teachers focused on to develop gifted readers, it appeared that there was no consensus on a particular set and level of reading abilities: some of them (37%) focused more on highest abilities such as aesthetics and creative thinking, some of them (29%) focused more on teaching knowledge regarding basic language skills and literature, and some of them (14%) focused more on abilities for understanding. Researchers (see, for example, Dooley 1993; Moore 2005; Kenney 2013) point out that gifted readers need to be challenged and taught through higher order thinking skills. Thus, for Chinese teachers to improve their current teaching for gifted readers, there is a need for them to use texts and organise reading activities that can inspire and involve more higher order thinking abilities.

The data showed that almost all the teachers (85%) used at least one strategy to engage gifted readers. The result is presented in Figure 5.2. Nearly half of the teachers used inquiry reading (48%), enrichment (45%), pull-out programmes (43%) and creative reading (40%). However, this finding was conflicted with the finding of the interview data in relation to what strategies Chinese teachers adopted for gifted readers (as discussed in Chapter 7). The interview data found that Chinese teachers rarely intentionally planned teaching and adopted some strategies to address the learning needs of gifted readers. A possible explanation was that Chinese teachers who participated in the questionnaire or the interview did not have a clear and systematic idea of how to instruct gifted readers, and thus their responses were often conflicted and obscure. While in the questionnaire the multi-choice questions regarding strategies for teaching gifted readers could implicitly remind the teachers that these strategies were effective, in the interview it required the teachers to think of these strategies by themselves and how they can effectively engage gifted readers. Thus it required more thinking in the interview than simply ticking multiple choices in the questionnaire. In this

case, it was not surprising that Chinese teachers participating in the questionnaire seemed to have used more ways to address gifted readers than those teachers who participated in the interview. All these findings suggested that there might be a lack of professional knowledge regarding teaching gifted learners.

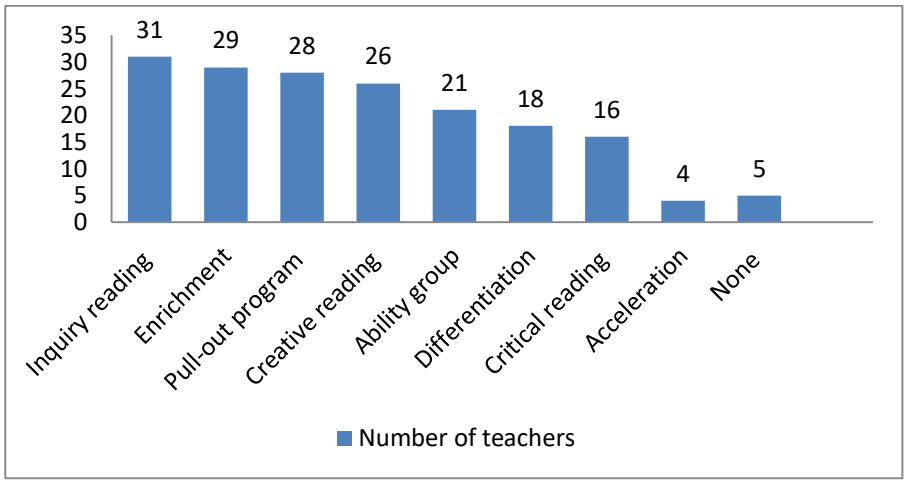


Figure 5. 2 Number of Chinese teachers using each strategy for gifted readers

The results showed that almost all of the Chinese teachers (90%) also used mixed-ability grouping in the literacy class. Homogenous-ability grouping was adopted by only one third of them. The teachers explained their preferences for using mixed-ability grouping strategies. One frequent reason was that gifted readers could use their high abilities to support other readers to achieve academic development:

> *I preferred using mixed-ability grouping because gifted readers can influence those who aren't interested in reading to engage in activities. (QCT 1)*

> *The reading ability and understanding ability of gifted readers can promote abilities of ordinary readers. (QCT 16)*

It seemed that the purpose of using mixed-ability grouping was to develop students of middle and lower reading abilities rather than the academic development of and challenges for gifted readers. Nevertheless, affective and social abilities such as abilities for collaborative work,

understanding others and leadership were considered to be promoted for gifted readers by some teachers:

> *1. It can cultivate leadership of gifted readers.*
>
> *2. Those children with ordinary abilities can be supported by someone other than the teacher. (QCT 59)*

> *Mixed-ability group could promote resource sharing as well as collaborative and inquiry learning. Children can learn from each other and achieve a better outcome. (QCT 54)*

Moreover, for some teachers, it appeared that it was more about time and energy that a teacher had to expend in order to organise some kinds of groups:

> *We have very heavy workload in the school. We don't have time to organise homogenous ability grouping. If the class size can be smaller, I'll consider teach gifted readers separately from other students. (QCT 35)*

> *Due to time constraints, it is difficult to organise homogenous-ability groups. In addition, there is a need for students in Year Two to improve their understanding and steadiness in many aspects. So I usually choose a mixed-ability grouping strategy and base our teaching on the texts. I rarely consider other things. (QCT 24)*

It can be seen that time, class size and workload influenced organisational strategies of Chinese teachers. As homogeneous-ability grouping can mean differentiation of reading texts and activities, which requires more preparation and time for teachers, it is not surprising that the teachers preferred organising more mixed-ability groups. However, homogenous-ability grouping can develop gifted students in their academic and affective aspects and can benefit other students as well (Steenbergen-Hu *et al.*, 2016). Thus, there may be a need for the teachers to organise groups more flexibly in order to provide different kinds of learning opportunities for all children.

Regarding how the development of gifted readers can be assessed, the result showed that, perhaps surprisingly, that in spite of a culture of exams and tests in this educational system, only half of the teachers assessed gifted readers through specific standardised tests. Classroom observation was used by 95% of the Chinese teachers and it was followed by feedback from other pupils (79%) and feedback from parents (48%). This might reflect that these literacy teachers were aware and trying hard to use a relatively flexible, diversified approach to assess their children from several perspectives.

Responses showed that there was no agreement on the statement that the national literacy curriculum had flexibility to allow teachers to meet the needs of gifted readers: 54% of the teachers agreed, the other half either disagreed (14%) or were not sure about this (32%). One explanation for these results could be that these teachers were from three different schools and these schools might have different understandings and policies towards the extent to which teaching practices should be framed by the national curriculum. Another explanation could be that the teachers had their own interpretations of the curriculum, and their own approach and abilities to fulfil what the curriculum requires would be different, thus some teachers would feel that the curriculum provided enough flexibility for gifted readers and others would feel that the content of the curriculum was overcrowded in that they did not have time to provide more challenges for those advanced students.

Regarding whether Chinese teachers were comfortable with their teaching of gifted readers (see Table 5.7), only 29% of them felt comfortable in teaching HARs and others were neutral (55%), uncomfortable (16%) or very uncomfortable (2%). For meeting the needs of HARs, only 23% of them held a positive attitude and most of them thought HARs were poorly addressed within the classroom (61%) although others were not sure about this (16%).

	Percentage of Chinese teachers
Very comfortable	2%
Moderately comfortable	27%
Neither comfortable nor uncomfortable	55%
Moderately uncomfortable	16%
Very uncomfortable	2%

Table 5. 7 Chinese teachers' feeling about teaching gifted readers

Table 5.8 presents perceived factors that influenced Chinese literacy teachers' teaching of gifted readers. It could be seen that sufficient availability of a wide range of reading materials was most frequently mentioned as supporting teaching practices. In addition to these stocked print texts, multimodal texts accessed via the internet were also considered beneficial in enriching children's reading experiences:

> *Texts can be expanded, collected and categorised in this context of multimedia and informational teaching and learning. Basically, it can meet the needs of our student readers. (QCT 36)*

> *1. Library.*
>
> *2. Sharing of digital resources. (QCT 41)*

Meanwhile, collaboration with children's families and other related educators, such as teachers' colleagues and other professionals in reading, was also considered important to strengthen Chinese teachers' teaching for gifted readers:

> *Parents can attach importance to [gifted education]*
>
> *The school can support and encourage [gifted education]. (QCT 28)*

Other teachers thought that there was a lack of support from the society and children's family. This inevitably hampered their teaching for gifted readers:

1. The whole atmosphere for reading in the society is not good. Not everyone is reading. And there are few places for reading.

2. Just the school can provide opportunities for children to share their reading experience. (QCT 27)

Many teachers also mentioned that a lack of time exerted a negative impact on their teaching of gifted readers. There were many reasons that resulted in insufficient time for teachers to further develop gifted readers:

Too many tasks of daily teaching resulted in insufficient time and effort for the consideration and teaching of gifted readers. (QCT 44)

Overloaded teaching tasks lead to difficulty to find time to teach gifted readers. (QCT 19)

Too many pupils. (QCT 46)

The reasons that the current education environment has impeded my teaching for gifted readers are summarised as below:

Heavy teaching tasks, and too many activities (refer to teaching unrelated activities) etc. (QCT 1)

Thus Chinese teachers were experiencing a heavy workload due to large class size and consequently many children's needs were waiting to be met in addition to an overpopulated curriculum and tasks, as well as activities unrelated to teaching. The exam-oriented educational system was also criticised as hampering the development of gifted readers:

In the current educational system, exam-oriented teaching and learning has impeded teaching for gifted readers. (QCT 6)

Parents overemphasised on their children's exam result. (QCT 11)

1. Standardised test in the level of school and districts as well.

2. Entrance exams for secondary schools.

3. Parents' values and personal qualities. (QCT 59)

These responses show that improving the education of gifted readers, or gifted children generally, was not a challenge that individual Chinese teachers felt they were facing. Rather, many issues added to the complexity in this Chinese sociocultural context and worked together and resulted in apparent general underdevelopment of gifted reading education. These are explored in more depth when analysing interview data in Chapter 6 and 7.

Factors benefitting teachers' teaching for gifted readers	**Number of teachers**
A variety of reading resources	18
Internet access and technology support	8
Collaboration with parents and the pupil himself/herself	8
Support from colleagues and outside agency	5
Effective monitoring procedures and assessment	1
Factors hindering teachers' teaching for gifted readers	**Number of teachers**
Lack of time	29
Standardised test	12
Lack of professional knowledge regarding gifted education	3
Lack of family support	3
No legislation and policy support	2
Children's lack of interest on the literacy textbook	2
No identification standard and process	1
Social environment that don't emphasise on reading	1

Table 5. 8 Factors that influenced Chinese teachers to develop gifted readers

5.4 Comparison and Synthesis

When comparison was made between the data of Scottish and Chinese teachers, similarities were found regarding a lack of specific courses and training for gifted education and literacy. The data revealed that both Scottish teachers and Chinese teachers rarely received courses

and training about gifted education but the ratio of teachers who received courses and training about children's literature was almost the same in China and Scotland (nearly 50%). This indicated that teachers' professional knowledge about some aspects of giftedness in both China and Scotland did not come from specific professional development programmes, but might have been constructed from general knowledge they have in relation to learning and teaching, literacy, reading or children's texts. Chinese teachers' and Scottish teachers' professional knowledge and sources of knowledge about gifted readers are explored in the analysis of the interviews.

Teachers in both countries recognised and defined gifted readers through a comparison of their reading abilities with their similar aged peers. Most frequently, both Scottish and Chinese teachers perceived that gifted readers were more proficient at basic language skills including decoding and comprehension as well as demonstrating some higher order thinking skills. Affective aspects were mentioned by teachers in both countries to define a gifted reader (e.g. reading with enjoyment by Scottish teachers, having passion for reading and possessing an ability for empathy by Chinese teachers). Only one teacher in Scotland mentioned the issue of potential, instead of performance, to understand a gifted reader. The issue of teachers' understanding of potential and underachievement of gifted readers is explored further through the interview data.

Regarding the provision of texts for gifted readers, most of the Scottish and Chinese teachers created a reading environment for free reading, which could differentiate, enrich and extend gifted readers' reading experiences and meet their learning needs. Language complexity and themes were their most frequently considered issues for using texts to teach reading. In terms of strategies to benefit gifted readers, in general, Scottish teachers used these more than Chinese teachers. While differentiation was used by most of Scottish teachers (91%), only few Chinese teachers (28%) adopted this approach, possibly due to large class sizes. For the teaching of gifted readers, it appeared that Scottish teachers took relatively more action than Chinese teachers to address the learning needs of gifted readers and Chinese teachers seemed to be encountering more challenges in relation to reading resources, large class size, less flexibility of the curriculum and the current exam-oriented educational system. The analysis of the interview data examines how these issues influence teachers' teaching of gifted readers. According to the questionnaire data, gifted readers in both countries could be

provided with, and further developed by, more digital reading in regular classroom teaching, as new literacy abilities are required to access a variety of the electronic resources in the context of an informational era. Multimodal texts such as the digital app book could be used to enrich reading experience of gifted readers, indeed, of all readers in both countries.

Through comparing Chinese and Scottish teachers, an interesting relationship was revealed between the level of comfort of teachers and how well they felt that have met the needs of their HARs. It was found that, the less teachers thought that their HARs were well taught, the less they felt comfortable about teaching them and *vice versa*.

In summary, this chapter has reported on and briefly discussed the Chinese and Scottish primary teachers' responses to the questionnaire. The questionnaire was designed to investigate teachers' background information, conceptualisation of gifted readers, reading materials and classroom strategies used to accommodate the needs of gifted readers. Themes and issues which were discussed in the questionnaire data offered an initial insight into how primary teachers in East Ayrshire and Guangzhou instructed gifted readers in their classrooms. The next two chapters analyse the interview data from each country to further elucidate teachers' practices with gifted readers.

Chapter 6 Main Study - Findings and Analysis of Interviews in Scotland

6.1 Introduction

This chapter focuses on interviews in Scotland, and aims to answer the three research questions from the perspective of Scottish participants. As the key intention is to present primary findings, this chapter contains large elements of descriptive data. Whenever needed it also links back to literature in order to better interpret and understand the findings. The research questions addressed in this chapter are as follows:

1. How do primary teachers conceptualise gifted readers in Scotland?
2. Do primary teachers use children's literature to nurture gifted readers in Scotland? If so, what kinds of children's literature do they use?
3. How do primary teachers teach gifted readers in Scotland?

There were two groups of interviewees. One group was comprised of Scottish teachers who offered the perspective from their classroom teaching. The second group were literacy coordinators responsible for literacy management for their whole school. There were two sets of different interview questions for these two groups: teachers were asked about conceptual understanding and practice in the classroom; head teachers, deputy head teachers and principal teachers were asked questions in relation to literacy management within the school (see Appendix E Interview for Teacher and Appendix F Interview for Literacy Coordinator).

Findings and analysis from Scottish classroom teachers are presented first in sections 6.2-6.4. The interview for teachers asked participants to reflect on three major themes: conceptualisation of HARs, reading resources used for HARs, and teaching approaches for HARs. These three themes corresponded to the three research questions, respectively. After a thematic analysis of data, sub-themes emerged and were categorised under the three main themes of this study in Table 6.1.

Main themes	Sub-themes
Teachers' conceptualisation of HARs	Characteristics of HARs The home environment The school education Instruction of HARs
Reading resources used for HARs	Appropriateness of reading materials Exposure to a variety of texts
Teaching of HARs	Differentiation for teaching Higher order thinking ability Independent learning Ability grouping within class Mixed-ability grouping within class Collaboration with related people for HARs' education

Table 6. 1 Main themes and sub-themes derived from Scottish teachers' data

Findings and analysis from Scottish literacy coordinators are presented in sections 6.5-6.9. Five themes regarding literacy coordination emerged from the data:

1. Justification for teaching HARs,
2. Sourcing reading materials for HARs,
3. Teaching of HARs,
4. Collaboration with related people for HARs' education,
5. Scottish teachers' professional development.

Scottish practitioners' perceptions of and pedagogy for HARs were explored in depth. The analysis sought to understand their responses through the lens of Scottish sociocultural contexts, theories and models of giftedness, as discussed in Chapters 1-3. It was also important to see if teachers' understanding of high ability was consistent with theories and models internationally and how this influenced teachers' practices.

6.2 Scottish Teachers' Conceptualisation of HARs

This section explores the four sub-themes: teachers' perceived high reading ability, family environment, school environment, and instruction in the development of HARs. These four sub-themes serve as headings in this section.

6.2.1 Characteristics of HARs

In the interviews, all teachers were asked about their understanding of HARs, especially with respect to ability, knowledge level and characteristics. From their responses, it was found that they had a common understanding of HARs. Almost all Scottish teachers considered HARs to be proficient readers, particularly in relation to phonics skills, comprehension and higher order thinking skills. In addition to those abilities within the cognitive domain, one teacher also considered affective ability as an important aspect possessed by HARs. For Scottish teachers, HARs would be identified because they could present with a wide range of abilities rather than a single skill when reading.

One teacher thought that a pupil who was only very able at decoding could not be considered as a HAR. She stated that "*children can decode… doesn't tell you that he is [a HAR] … It's more the comprehension that leads me to think that [they are] HARs rather than simply read[ing]*" (ST2). For ST2, in-depth comprehension was an essential strand of high reading ability. ST5 commented further that high reading ability should also build on being highly able at "*find[ing] inference in the text…analys[ing] the writer's craft*". For her, as well as decoding and comprehension, some higher order thinking skills were also required for a learner to be identified as a HAR. Indeed, "*It wasn't just one thing that identified them. It was a range of things…It was all that together*" (ST7). Overall, in the teachers' understanding, HARs were highly able across a wide range of abilities, including decoding and comprehension, inference, questioning, predicting, making connections and other higher order thinking skills, which worked in harmony and led to high reading ability.

This response echoes a test by Fehrenbach (1991) who distinguishes reading strategies used by gifted readers and average readers. It shows that gifted readers tend to use a variety of strategies for a text, such as evaluating, inferring, using visual imagery, analysing structure,

and predicting (Fehrenbach, 1991). A better use of these strategies to understand texts was considered important by Scottish teachers. Their understanding was also in line with that of Catron and Wingenbach (1986) and Vosslamber (2002) who argue that HARs should demonstrate basic language skills, comprehend a text well, and demonstrate abilities in higher level thinking (for example, anticipation of meaning, relating to prior experience and knowledge to form a concept). Indeed, reading for children is not just about understanding the meaning of the text, it is more about how to learn and apply various skills, such as critical thinking, through the activity of reading, to develop themselves.

One way that teachers discussed HARs was in relation to Bloom's taxonomy (Bloom et al. 1956) which categorises educational objectives into six thinking levels: knowledge, comprehension, application, analysis, synthesis, and evaluation. Some teachers even directly mentioned this taxonomy and found "*that's more inferential and more discussion-based rather than [writing a chapter summary]*" (ST2). Based on Bloom's Taxonomy, Xia (2001) categorises reading abilities into three levels: knowledge (e.g. vocabulary, grammar), understanding (e.g. interpretation, inference), and exploration (e.g. aesthetics, critical and creative thinking). Xia (2001) also argues that all readers should be fostered in their ability to demonstrate these three levels of abilities and to use them together to understand a text fully. Thus, it is not surprising that Scottish teachers tended to look for these comprehensive abilities from a HAR in reading activities. More importantly, the data also showed that Scottish teachers were able to use educational references (not necessarily in the field of gifted education) to understand gifted readers and to apply knowledge of general education into supporting gifted learners.

In addition to the cognitive abilities discussed above, the affective ability of high empathy was noted by one participant. ST1 gave an example from mainstream classroom news where he observed his HARs sympathising with people who were reported to be suffering from the effects of an earthquake or other painful things. That gifted children can sensitively understand others is supported by Walker and Shore (2011: 644) who note that there is potential connection between giftedness and the ability to interpret "other people's states of mind". ST1 then argued that for children to be recognised as HARs they should have the affective ability for deep sympathy and understanding towards other people. To explain this affective ability, he noted that:

> *They understand what that child's going through because they've experienced these different things in the book. They've got a very [rich] world of knowledge, whereas other boys and girls find it really hard to, to situate themselves in that position and understand what it feels like. But I think it's just because there's a range of books they are reading and a range of experiences that they put down there, that they are able to have this wee bank of knowledge about how different people might feel in different situations and how they would react as well. (ST1)*

For this participant, being able to read a variety of texts played an important role in a reader's emotional development and led the reader to understand themselves and others in greater depth. This is supported by Halsted (2009: 45) who notes that readers could better understand their situation or other's situation after they undergo "an emotional experience" of a character in the same situation. HARs thus could develop their social and affective ability through reading stories with characters that have had various life experiences.

6.2.2 Home Environment

When participants were asked where they thought high reading ability came from, almost all of the teachers (7 out of 8) stated that the home environment as an informal learning context nurtured HARs at the very beginning of their learning journey. In their view, an early literacy enriching environment and supportive parents plays an important role in the reading development of a child.

> *I think it comes from an encouragement at a young age, from home, from parents, and a just general level of literature and all forms, whether that'll be audio books, poetry, storybooks, and an interest on non-fiction if that's going to the library and… and looking at it. (ST5)*

> *I think the big impact is probably before they start school. I don't think it's something happening once they are at school. I think it happens before that, because that time between birth and three years old is the biggest development opportunity for them. So I think if they are around texts, if they read stories in nursery rhyme, songs and all that, just like if their mums and dads are talking to them. I think all of that will help contribute to the reading ability as well. (ST4)*

The responses from both teachers implied their belief that a home environment with encouraging parents and a variety of texts were key factors in fostering high reading ability. Environmental influences on the development of giftedness and talent have been highlighted across the literature (see, for example, Gagné 2004; Ziegler & Phillipson 2012; Csikszentmihalyi & Robinson 2015) and home should be regarded as a human's immediate environment where proximal growth occurs (Bronfenbrenner, 1994). Smith and Campbell (2012) note that children would benefit from a home with a culture of valuing education, aspiration, supportive beliefs and attitudes in terms of high attainment. Scottish teachers' perception of family influence on children's reading ability corresponded to this view. It should be noted that learners of all ability levels need support from their home environment to develop. Scottish teachers believed that parents who were aware of the importance of literacy education and often communicate with their children would nurture high reading ability from the very beginning.

It was not just the experience with HARs who have had a supportive home reading environment which led to participants' emphasis on the importance of learning. Scottish teachers believed that high abilities could be nurtured by efforts and environment rather than natural characteristics:

> *But I think in terms of being born and being a genius, a highly able, I would, I would like to say no to the answer because I like the idea that through hard work and determination, you know, you can advance to be highly able. (ST1)*

While many believed that high reading ability had its roots in the home environment, several (3 out of 8) noted a genetic component. Teachers' diverse views on natural abilities and nurtured abilities are in line with that there is no consensus on a definitive concept of giftedness among researchers (see, for example, Gagné, 2010; Ziegler and Phillipson, 2012). One of the teachers recalled the experience with her two daughters, one of whom was exceptionally highly able at reading and one of whom was not interested in reading at all, although they were nurtured in the same family and shared the same literacy environment. To explain the difference, the teacher concluded '*it's completely, utterly down to nature……I think there is definitely linguistic intelligence. I think she just got a natural ability with language*' (ST7). This was supported by ST6 who also thought '*some children maybe are,*

do have a kind of more natural ability towards reading'. While both participants agreed that there was a genetic component to high ability, ST6 also added that '*the exposure to different texts at a young age is really important*'. This view suggested that although this participant acknowledged the natural ability of some HARs, she still emphasised that training and learning in a literacy enriching environment was vital for the development of HARs.

In conclusion, it was found that while few still possessed a genetic or inherited viewpoint, for most of the Scottish teachers, high reading ability had its origins in or was nurtured through a supportive home environment rather than exclusively rooted in nature.

6.2.3 School Education

While parental influence on HARs at an early stage was recognised by Scottish teachers, the majority of them (5 out of 8) also recognised the importance of school education on subsequent development of reading talent. In his DMGT, Gagné (2004) argues that talent development can take place when a formal teaching context is provided for gifted learners, with careful instructional planning to achieve educational objectives. Participants believed that school education could promote high reading ability:

> *I have seen that, there were two boys I had in my very first year teaching that really didn't like reading at all. And we started to get them to engage with comic books and started to build up novel studies. So, I think a lot might be to do with the relationship they've got with the teacher as well, and [teachers] help them to challenge themselves with reading books. Those, those two boys are gifted by any means, because I was able to build up a relationship with them, I was able to advance them through. (ST1)*

> *But in the school we utilise every material we have and it's across the curriculum, so they would build up knowledge of mathematical terms, mathematical vocabulary, scientific vocabulary, uh, natural…the natural world. We are trying to do these in as many formats as we can. At some stages, depending on their high ability, what we do, do is to encourage more writing activities, so they can use the vocabulary and extend vocabulary. Umm we use a lot of dictionaries, a lot of designs, so they don't just have one word, [and they] used to get as many as possible. (ST3)*

It could be seen that both these teachers considered their central role was to deliver provision that could effectively develop HARs within school education. In Scottish teachers' understanding, through encouragement and being challenged by teachers in the classroom, children could advance themselves through texts and increase reading ability. Some HARs might not present with high performance at an early stage in schools but, as perceived by ST1 and evidenced in the above quotation from ST1, their high reading ability could be inspired by a well-maintained relationship between teachers and HARs.

Johnson (2008: 386) points out that teachers are critical "enduring socialising influences" among all adults in children's lives and it is teachers who directly contact and educate children for an extended period of time. Most of the time life values, national and school policies, curriculum and knowledge, learning resources are delivered through teachers in children's daily life at school. Appropriate teaching and a supportive environment provided by teachers is a significant feature on reading talent development (Firmender *et al.*, 2013). ST8 noted that, as a teacher, it was important to "*be coming up with challenging work and make sure that whatever you give them, they are always learning something new*" in the classroom. Thus teachers implied that high reading achievement was possible under the influence of teachers in formal institutional contexts.

To conclude, learning contexts, including home and school, were perceived by most of the Scottish primary school teachers to be much more important than inborn and natural abilities in the development of HARs. This is consistent with recent research that indicates that at an early stage unpromising inborn traits could be compensated by supportive environments in which parents or teachers commit to develop their children (Stoeger et al. 2014).

6.2.4 Instruction of HARs

Overall, Scottish teachers thought that HARs needed constant, individualised, challenging and more open-ended instructions as well as appropriate reading materials which could be matched to their readiness level and ignite their reading interests. However, there was still confusion and hesitation among teachers regarding details of an effective and systematic pedagogy for HARs.

The issue that appropriate reading resources were a key factor in accommodating HARs' needs was identified by all Scottish teachers:

> *So, I suppose it's the text, [and that] they have exposure to texts at the correct level for them. So, we need to, you know, obviously source some more advanced texts to children and make sure they were…you know…the tasks they were doing related to that. They were…you know…they are deepening their understanding.* (ST6)

> *I found my highly, my highly able ones always want challenge, [and] they are always ready to try something else. They don't want to pause, [and] they want to be pushed… [In] my daughters' school, they are not using books to engage her, and she is switched off. So as a teacher and a parent, it's hugely important that the reading material that you pick is something that engages with.* (ST8)

Referring to what instruction teachers thought HARs needed, ST1 and ST4 reported:

> *[They need] very, very open-ended instructions. Because if you, if you restrict the instructions toward what they are looking for, they'll do a really good job, but that's only what they'll give you. Whereas if you create a really open-ended instruction for them, they'll, they'll give you more above what you are looking for. So it's, it's not being restrictive on what you say to them or what you, you ask them to do in terms of the tasks. And that [open-ended instruction] allows them to have the creative learning.* (ST1)

> *I think they need, they still need to be planned for, possibly as an individual, umm, to make sure that they are also being challenged as a highly able pupil and they are still always moving forward learning new skills, learning how to read more challenging texts. And it doesn't just...because your focus is on the less able readers.* (ST4)

ST4 pointed out two other interesting features: firstly, she was aware that HARs needed teachers' attention and tailored instructions to advance their learning and they could not be left alone. This was supported by ST6 who noted that, without sufficient challenge and differentiated instruction, there was a possibility they would "*disengage with the work they are doing*" (ST6). Secondly, for ST4, the current focus of teaching was more on the less able

readers. It appeared that perceptions and behaviours of ST4 were contradictory, but it was this contradiction that implied a transferable stage for teachers and a need for researchers and policy makers to further support teachers to take action to provide equal education for each child.

This transferable stage and need was further indicated by ST2. ST2 noted that there was sense that school teachers should focus more on those with less ability whereas those with high ability did not need additional support to develop their abilities:

> *I think in schools we work so hard for the lower level, [and] we work so hard for them. And so many things could be in place for the lower level, the lower ability, because we want to bring in more. We tend to forget about the higher. I think they'll be fine, they'll just go on themselves, you know, they'll just keep working and they'll be fine. (ST2)*

Interestingly, she then criticised this argument and thought that there was a need to change from the traditional way of teaching which emphasised the lower end.

> *So I think we all need to strive, [and] we all need to care for the high ability, because I think for too long… I don't want to, to change. I don't mean that. But I think we spend so long concentrating on the bottom end that we just forget the top end, 'cause we just think they'll be fine. (ST2)*

While ST2 indicated her changing thoughts for providing more support for highly able students, ST4 expressed concern regarding her insecurity about the most effective education for highly able students:

> *I'll be honest and say I don't feel I know that more, that much about it. And I think it's an area I could do more to learn about. Because I was saying I don't know any highly able children in my class, but maybe part of the problem is that do I know how to identify those highly able children in my class? (ST4)*

ST4 considered herself to be in need of more knowledge about gifted education, especially for the identification of highly able children. In this transferable stage, from the traditional way to a new way of teaching that can fully engage every child, teachers could be provided

with more training and courses regarding theories in gifted education to instruct their teaching activities. Renzulli (2012: 150) indicates that for gifted education "absence of theory in educational practice usually results in services comprising piecemeal, fragmented and loosely related activities rather than integrated theory-driven programs characterised by internal consistency from goal setting to services and evaluation". Without a systematic knowledge of gifted education, it is unlikely that practitioners could understand highly able children in-depth and thus consistently support their development.

6.3 Reading Resources Used for HARs

This section explores the three emerging themes from the data relating to the Scottish primary teachers' use of texts to support HARs. For teaching HARs, appropriateness of texts and diversification of texts were considered of great importance by Scottish teachers in the classroom. Meanwhile, there was limited and insufficient use of ICT resource-related reading.

6.3.1 Appropriateness of Reading Materials

Interviewees were asked to reflect on issues relating to reading materials they used for all readers and especially for HARs in the regular class setting. Almost all the Scottish teachers stated that they tried to select texts that were considered appropriate to children' needs. Topic, language complexity, the maturity of the content, and children's interests were mentioned as key factors influencing teachers' selection of texts.

> *You set your class up to accommodate all the children. So you make sure that you have resources to suit the more able child(ren)… If a child was not really a person that wanted to read a novel but they were into space, you would also get that type factual, reference book material, as much as you can...'cause some children will never read a novel, but they'll get right into a reference book. I don't mind. (ST3)*

> *I want them to have choice and switch and read a book and think "This was great. I like whatever part of it. I think you would like that". I want them to be*

talking about the books and say to a classmate "I think you would really enjoy this book" rather than say, "Right, we are going to read the same book". (ST2)

...I would make sure that it goes along with their interests. It would be great if it is also a novel that tied into an interdisciplinary topic that we are doing as well… (I'm) always looking at something that is really going to challenge, challenge them. (ST1)

The above quotations demonstrate that the teachers took children's readiness and interests into account and tried to match appropriate texts to children in the classroom. For ST1, ST2 and ST8, allowing children's personal choices of texts was an effective strategy to address their interests and get them highly motivated. To motivate children, bringing "*reading to life*" (ST1) was another way adopted by ST1. He made reading texts responsive to events or issues that children cared about and were really interested in at the time. A whole-school plan, including the same theme, genre, and texts was used for all children without any personal choices in the school of ST1. However, activities around the same text could be designed differently according to abilities to suit children's diverse needs.

Though Scottish teachers used some strategies to select texts, it could still be difficult for some teachers to address all the needs of each student. As one of the teachers noted:

And I think one of the hardest challenges that we are facing at the moment, is to find reading that's appropriate to everyone and how you meet their ability. Particularly at this stage, I've got some readers that are very good readers and I've got some children that still struggle with it, so how do you meet all their needs and differentiate? (ST4)

Besides the challenge of choosing appropriate texts, access to them was another problem for teachers. ST1 found that the process of accessing a selected printed book was more time-consuming than making the decision to use it in the school:

The sourcing can be quite restrictive… [W]e, we don't have a wealth of novels. [I]f I want to do a whole class novel, I might have to wait two weeks [for the book] being ordered down. So I, I found resourcing very restrictive for what we have… Maybe it's not so much for infant teachers [in terms of restriction of

resources], but certainly for the seniors and certainly for the children who are highly able. (ST1)

The response from ST1 implied that limited access to reading materials had restricted his teaching of HARs. Ziegler and Stoeger (2017) argue that development of highly ability can be hindered without sufficient educational resources for educators and gifted students. Thus, to provide a beneficial reading environment, there is a need to provide more access to reading materials for developing HARs.

6.3.2 Exposure to a Variety of Texts

All teachers indicated that they used a wide range of print texts that were available to them to support children's literacy development. Those texts included both fiction and nonfiction, such as nursery rhymes and songs, fairy tales, picturebooks, newspapers, poetry, posters, horror stories, reference books, magazines and books based on films. In addition, reading schemes were another important source for children's reading.

Because we've got like a planner that we have to follow, so we use the books in the reading scheme from the school. (ST8)

…it's using a range of different kinds of literature like fiction, nonfiction, different things like that. So it's not just [fiction]. Because if you use factual books, it's bringing whole vocabulary to them that challenges them in a different way from fiction. (ST8)

It was found that most of the teachers did not emphasise one particular kind of text and resources from both fiction and nonfiction were important to support HARs' reading development.

While print texts as traditional reading materials were widely used in the classroom, the use of electronic reading was controversial among Scottish interviewees. Some of the teachers showed resistance to digital reading:

> *…I think children need to learn what a book is. They need to learn this is front cover, this is the back, here is the block, here is how you open a book, here is the top, here is the bottom, it's upside down. When you put a digital book on the screen, it does not have the same experience… Because some of them get stuck in front of a screen all day at home, and all they do is to watch the telly and play computers. And they don't get a proper book. (ST8)*

This response indicated ST8's concern about children spending too much time on electronic devices which distracted them from print books. For this reason, she preferred to provide more experiences through reading print texts in the classroom. Conversely, some teachers supported ICT resources and saw them as beneficial to the teaching of reading:

> *…I would love to be able to have iPads, and be able to download books very easily. It would just make that process much easier. (ST1)*

For ST1, ICT resources should be utilised to immediately access needed texts that might not be available in print versions. These two opposite views linked to the debate between print reading and digital reading. Currently print texts are considered to be superior medium than screen texts in providing reading experiences with complexity and depth (Stoop *et al.*, 2013) and the problem of internet addiction relating to technology use may cause severe sleep and health problem (Chen and Gau, 2016). However, it cannot be denied that technology has dramatically changed our lives and changed our habits of reading (Rodrigue, 2017), although educators and researchers are still struggling to help children access to electronic reading in an appropriate way. The responses of interviewees indicated that there was possibly a gap between the way reading takes place in school and children's reading out of school. Rodrigue (2017) argues that it is important for educators to prepare learners with new literacy abilities in twenty-first century. Indeed, school education should be responsive and link to children's entire reading life. The issue is not whether to use digital reading; rather, it is how to utilise it in an appropriate way, as children are living in a world full of screen technology.

In addition to the necessity of preparing children to engage with new literacy abilities, electronic resources could especially extend HARs' reading experience. Weber and Cavanaugh (2006) emphasise the importance of using eBooks to diversify reading materials

for HARs, often efficiently and economically. The experience of supporting HARs through ICT resource was described by ST5:

> *[W]e do access audio books, things for dyslexia learners, people struggling with reading. But for more ables, no, not really, unless more access to, uh, web pages and research materials online. [ST5]*

It can be seen that ST5 was aware of using ICT resources for HARs; however, limited access was a key problem for her teaching. It might be due to inadequacy of funding to buy ICT resources, or to the lack of awareness of the importance of ICT resources from a whole school perspective. Furthermore, none of the participants indicated that digital app books had been used as a new resource for reading materials. While access to sufficient reading resources through different avenues sometimes is out of a teacher's control, the key issue is to how teachers take advantage of available resources to a full extent to develop HARs. This is discussed in the next section regarding teachers' pedagogy for HARs.

6.4 Teaching of HARs

The raw data from the interviews revealed six themes with regard to Scottish teachers' teaching of HARs. Here these six themes serve as headings for Section 6.4.1-6.4.5.

6.4.1 Differentiation in Mixed-ability Classes

All Scottish teachers tried to differentiate their teaching in different ways. This could be differentiation through texts – children provided different levels or kinds of texts according to their readiness and interests, as discussed in Section 6.3.1:

> *If as long as you have texts to challenge them, then you, your approaches are the same. You just ask more often… The texts might contain more subtle inferences for them to pick up or quite a complex theme for them to find. I think the important thing is getting them the text right and then teaching them is pretty much the same. (ST5)*

It is interesting that ST5 emphasised the importance of providing of challenging texts for HARs whereas whole-class teaching methods were adopted in the reading class. However, the content of each teaching method could be differentiated by teachers as well. For example, the following quotation describes questioning used in such a way that the complexity of questions was different to suit children's abilities:

> *If we are using Bloom's, they would be doing like a four, five or six questions which are the harder ones, (and) the less able would be reading book (and) doing a one point, a two point, or a three-point question. (ST7)*

Some Scottish teachers also differentiated for learning activities by using the same material for every child:

> *(For a whole class novel), what we do is that we might have differentiated activities for them, or it might be that we would see (if) this group need a wee bit support, or my more highly able learners would be creating their own activities to show off that skill. (ST1)*

The reading material might be part of a whole-school teaching plan that the teacher should include into their class, or it might be a whole-class reading text that the teacher used to engage every student to share their thoughts about reading. Though the reading materials was set for the whole class, it can be seen that ST1 gave more freedom to his HARs and fostered their independence and creativity, thus HARs could demonstrate what they have learnt, which might be different from other children.

Tomlinson (2001) suggests that differentiation is essential to address children's diverse needs in a mixed-ability classes and differentiation can be from three aspects: content, process and students' product. Although not all Scottish teachers adopted these three approaches to maximally differentiate instructions, they still considered differentiation as an effective strategy and used it to develop HARs to some extent in their mixed-ability classes.

6.4.2 Higher Order Thinking Ability

A consensus of the importance of teaching higher order thinking to HARs emerged from Scottish teachers. Reading activities were planned for HARs especially by taking account of higher-order thinking, such as inference, research skills, methodical thinking, critical thinking and creative thinking. The experiences of teaching HARs were illustrated by ST7 and ST8:

> *It's just bringing on that wee bit more, rather than just being general questions. You are trying to develop the higher order thinking with, with the able ones. That's what we sought to do just now. (ST7)*

> *I suppose we are looking at the, the higher order reading skills…I suppose just planning how we normally plan for reading groups, but it's all at high level really, making sure the, any comprehension activities were testing those literacy skills. (ST8)*

Their responses suggested that in the mixed-ability classroom HARs were mostly taught with the same activities as other students but HARs would be developed further by teachers through fostering their abilities of higher order thinking. By focusing on higher level of abilities for teaching reading in the classroom, ST1 felt that pupils' autonomy and motivation were inspired, '*because when you are able to give that creative input, again it's something that interests them… I find that, that really keeps the, the motivation level quite high*'.

HARs should be provided with more opportunities for fostering higher order thinking (Vosslamber 2002; Moore 2005; Wood 2008). Reading activities such as critical reading, inquiry reading and creative reading could promote higher order thinking to a large extent. Reading activities that were used by Scottish teachers including independent learning and questioning were also embedded in higher order thinking. This could suit needs of HARs and enhance their reading abilities.

6.4.3 Independent Learning

Most of the teachers mentioned that they encouraged HARs to be independent in learning. HARs could have their personal choices of reading materials, either fiction or nonfiction, or research activities were designed for HARs to explore knowledge by themselves. They were also allowed to have time and space to explore their own methods to achieve the learning objectives:

> *You would talk to the child… You set the children targets…"I'd like to increase your knowledge of vocabulary. I'd like to extend your vocabulary. I'd like you to concentrate on reading a novel this term, rather than using a reference book."… So you set them targets, and it would influence the parents as well. (ST3)*

> *You've got the goal post, and you explain them about the goal post - what, what would it like in terms of it. But in terms of how they actually get in there, it's entirely up to them. (ST1)*

For these teachers, independent learning did not mean that HARs worked all alone on their own projects. Heuristic questions were offered by teachers sometimes to promote HARs' learning into a higher level. For example, in ST1' class, children were asked to keep a reading journal for their own learning journey. ST1 would inspire HARs by posing heuristic questions to promote them to explore further, such as:

> *"So then, Ok, you've got your wee interesting character. Could you find another book which, you know, might speak the theme from a different way?"*

This exploratory approach of learning might lead to high motivation, creativity and autonomy, as believed by ST1.

6.4.4 Grouping within Class

A majority of Scottish teachers used flexible grouping, both ability grouping and collaborative learning, which meant that sometimes students were grouped by their ability

levels or sometimes were grouped into mixed abilities. The experience of using ability grouping was described by ST1:

> *…so we've got different groups. And what we'll do is that we do the whole class and then it'll be different wee levels of challenging activities for the, the boys and girls to choose between. Sometimes it might be that I've got boys and girls in group, I'll, I'll give them activities that I think are suitable challenges. Or what I sometimes do is to do what I call Mild, Hot and Spicy. So (we) have these different activities, and (it) depends on how the pupils feel. (ST1)*

From his response, ST1 was very aware of providing appropriate teaching for students with different levels, and ability grouping that he adopted made it possible to respond to student diversity. Ability grouping is an effective strategy to tackle learners' diversity because both high ability and low ability benefit from it due to the appropriate teaching resources and instructions they were provided (Nomi, 2009). Scottish teachers' use of ability grouping for teaching reading not only provided challenging opportunities for HARs, but also provided suitable instructions for their pupils in the middle and lower levels.

Mixed-ability grouping was also adopted by several Scottish teachers. ST3 illustrated her use of this organisational strategy:

> *Sometimes we encourage the children to work in twos, threes. And if you are working in three, you might have a more able, a middle able, and a less able. And each learns from the other… You know, get them to work as a team. (ST3)*

Team work was encouraged between students of different abilities by this teacher who believed that there was always something that students of various abilities could learn from each other. The same experience was shared by ST4:

> *I'm trying to put the top in the middle (group) and the middle in the bottom (group) together, so there is a slight difference for each other. But it's not so different, not that one child might just feel they'll do all themselves rather than are trying to support. It's trying to build up competence and that peer support that is going on between them. (ST4)*

The use of mixed-ability grouping by ST4 was slightly different from that of ST3. ST4 wanted to make sure that the gap between abilities of each group member was small so that they could really work collaboratively and no one would be left behind. Promoting peer support, collaboration and understanding about a different other was the major goal of teachers' organising mixed-ability groups.

6.4.5 Collaboration with Parents and Colleagues

Across the responses, most of the teachers were aware of the importance of collaborating with parents, so that HARs could be supported both at home and at school. This kind of cooperation was exemplified by ST1 and ST8:

> *(I'm) thinking about getting parents involved as well, especially parents' night, in, in, in suggesting them to what, where do you see a child, what kind of skills, what do you think the wee gaps are learning. (ST1)*

> *So parents are a big part of it as well… You've got to have engagement with the parents, engage the children and knowledge from the teachers on how to push them on. (ST8)*

It would appear that ST1 intended to help parents to understand their HARs. He raised some key issues in relation to highly able children for parents and used the strategy of questioning to inspire parents to get to know their children. This collaborative work between parents and teachers was also reported by ST2 who involved parents in the online reading programme '*The Book Bug*' so that parents could engage children with reading at home. Although no teachers stated this explicitly, comments of teachers about parents and HARs might imply a belief that it was only when parents and teachers collaboratively work together that HARs could be fully engaged and developed. For ST3, it seemed that focusing on encouraging parents of HARs to engage was more important than instructions for HARs:

> *…to encourage the parents, you know, "You've got an able child here, if you lost your job, but if you assist your child, work with your child, help your child, you*

might go back into work" …Those are parents sometimes you have to focus on other than the child. (ST3)

For ST3, this might be because parents could have a negative impact if they did not have an encouraging attitude towards their highly able children. This is consistent with how Scottish teachers perceived the home environment for nurturing HARs. In section 6.2.2 and 6.2.3, Scottish teachers considered both home and school education played an important role in the development of HARs. It is then understandable that teachers looked for close cooperation with parents and sometimes even first focused on encouraging parents to be confident and positive towards their highly able children.

ST1 also mentioned that cooperation with his colleagues was essential. Strategies of cooperation were professional dialogue regarding their HARs between colleagues, sharing of resources that have been used for HARs, and learning journals for children kept by teachers. In this way, ST1 thought that "*you've got a, a wide picture everything that that, you know, the child is about*". The idea of ST1 could help gifted readers to develop systematically and consistently.

6.5 Justification for Teaching HARs

A consensus among the Scottish literacy coordinators emerged in that they reported that highly able children had the same right as other children to obtain appropriate education. To achieve this, in their view, it was the responsibility of schools to provide teaching materials and appropriate pedagogy that could accommodate various abilities and interests of those highly able children. This was seen in the following responses:

…children who are highly able deserve the same opportunities. For that we are trying to build, build that up to ensure opportunities for highly able children as well. (SLC2)

Though the wee ones are struggling, but I think for me, it's like every child sitting in that room should have the same balance of support. It should be… which is

difficult, because I think you are naturally drawn to the wee ones that are struggling. (SLC3)

…if I'm honest, it's a difficult thing to do, 'cause you've got the ones… Sometimes emphasis was put on the less able. But in recent years, there has been more support given to them [HARs] to make sure that they'll get enough challenge, because if they are not getting enough challenge, they can become disengaged. So it's important. (SLC4)

Both SLC3 and SLC4 indicated that teachers should also offer additional support to highly able children. However, by relating the teaching of lower ability students to higher ability students, they found that it was often problematic to address the various abilities and needs at the same time for a teacher in the classroom. They noticed that teachers might put more focus on, or would naturally draw attention to, the less able children. This might be due to the reason that learning difficulties of the less able were more obvious whereas the high ability of a child might disguise the problem that they encountered. Also it might be due to the influence of current initiatives on closing the attainment gap. Nevertheless, a very strong standpoint was expressed by SLC5 towards equally teaching highly able children and this was a matter of equity:

I don't actually think we need to justify why they are doing that, but they, they should just be doing that. You know, every child is entitled to the, the right education. Every child is entitled to their own level. So I don't think we need to, to justify… I think if you start to, have to explain why you are teaching highly able pupils, there is something wrong with the system, because for whatever you do for every child, that's what you should be doing at their level, at their pace. And the teacher should actually justify why they are not supporting that child, rather than why they are supporting them. (SLC5)

This chimes with the legislation and Scotland's approach to inclusion for education in Scotland. Sutherland and Stack (2014) note that highly able children should have their needs addressed. Indeed, in such an educational system in Scotland, without accommodating the group of highly able children, social justice, inclusion and diversity cannot be realised.

6.6 Sourcing Reading Materials for HARs

From a whole-school level, all literacy coordinators stated that they considered reading materials as a key tool to develop HARs and therefore they have tried to provide children, including HARs, with reading texts from a variety of resources. The ways of resourcing included funding being given to teachers for the special purpose of buying books, using whole-school scheme books, connecting to a public library, donation of books by parents, online reading programme and other digital texts that were accessible to them. The following literacy coordinators reported that they sourced a wide range of reading materials from many avenues:

> *We have a large variety of fiction and nonfiction. Umm, we actually utilize IT a lot as well for websites, things like that, so a wide genre of literature. (SLC2)*

> *You're speaking to the wee one and sharing with the family. Everyone comes in together to, to find them appropriate resources. And for me, (I need) to support the teachers as much as I can. (SLC3)*

> *...I think that since the internet is coming as well, that really opened up a whole new world to us as well. So we have to use that, uh, quite often for your high able, your HARs. (SLC5)*

The same as SLC2 and SLC3, the principal teacher SLC5 also indicated that the diversity of texts was important for instructing HARs:

> *Or just use different genres, making sure they don't always read the same stuff... So it's trying broaden their, their views in literature, trying to get them to enjoy even more literature. (SLC5)*

> *There are some, there are some freedom, but they've got the guidelines as well. If you pick one book this, this time, trying to pick something different at the next time. So we're trying to influence them that way. (SLC5)*

From her response, it could be seen that repetition should be avoided in teachers' instructions so that HARs could have opportunities to enjoy reading a more extensive range of texts. This is accordance with Scottish teachers' teaching focus, as discussed in Section 6.3.2, which aimed to expose HARs to a variety of texts and to enrich and extend their reading experience.

However, sourcing could be problematic sometimes. In SLC4's school, ICT resources, especially tablets to read digital app books, were limited:

> *[For digital app books] We don't have iPads, so we couldn't bring that in… Again it's funding, money. If some of them buy it, we would love it to be able to give all the children that and things you can do. But it's just not the reality just now. (SLC4)*

Although this literacy coordinator was aware that children's reading experience could be enriched by screen reading, their school was not able to provide that. In essence, the key challenge here was a shortage of resource – funding – as she mentioned. Sharing resources between different levels of schools could be a solution at first. However, SLC5 illustrated the problem here:

> *We did ask the secondary schools to give us some books. And at the beginning, they did do that. But then they discovered if they are going to this school, they are going through the books and they were reading these books in primary. So they had to buy more, so they set to stop doing that a wee bit. (SLC5)*

It could be seen that locating appropriate resources to satisfy HARs' reading needs was a challenging issue not only for primary schools, but also for secondary schools. The principal teacher further expressed *"…we don't seem to have anyway where we can borrow these books from. But it's, it's definitely something we need, as a school, we need to look at and are trying to address that problem".* This quotation demonstrated their positive attitude towards the resourcing problems that they met and that they were aware that it was important to deal with those problems. Indeed, HARs have the ability to progress more quickly in reading, but insufficient reading resources in each stage might restrict their development. It is the schools' responsibility to source appropriate reading materials for HARs, and schools

should be given more support from the government to deal with the issue of insufficient reading resources.

6.7 Teaching of HARs

Several teaching strategies were adopted to address the learning needs of HARs in the classroom. Those main strategies included differentiating and acceleration. For differentiation, the literacy coordinators noted that their teachers often selected different levels and genres of texts for children to accommodate their diverse needs, or teachers differentiate the activities while using the same texts. The following illustrated how they differentiated questions for HARs:

> *And it's, it's differentiating questioning as well. When you're talking to a group, you would picture questions at different levels to give children in front of you, to provide a piece of challenge for everybody... (SLC2)*

> *(F)or differentiation, they make more complex questions… Every stage we always make sure that one makes comprehension activities and put a variety of different questions in there to make sure that they actually get more with us before we move on, you know, make a higher, more difficult text. (SLC4)*

Asking more complex and in-depth questions of HARs was viewed as an effective and convenient way to differentiate. All schools stated they had used this strategy frequently. In addition to differentiation, acceleration served as another strategy for HARs:

> *Obviously, if the wee ones are presenting as more highly able, they would move a lot quicker through reading scheme. (SCL3)*

> *When it comes with, you know, maybe although it's a classroom reading scheme, we can jump novels and progress there. And several teachers would just give them, like, short novels to do as a reading piece. (SLC4)*

It appeared that SLC3 and SLC4 regarded acceleration as an effective strategy to meet HARs' advanced abilities. However, it sometimes seemed more problematic than the strategy of differentiation:

> *Sometimes the reading material, uh, it gets a wee bit too advanced for their maturity levels. They don't necessarily cope with something, maybe the meanings in the moral values. (SLC3)*

SLC3 considered that although advanced reading texts were suitable for a HAR in terms of language complexity, the content might involve issues that were too mature for a pupil HAR to deal with. Those issues might include death, love, sex or violence. The concern of accelerating highly able students into a situation that requires higher level of maturity and socioemotional abilities is echoed by Neihart (2007). Neihart (2007) notes that educators should take the socio-affective impact into consideration when using acceleration because the socio-affective factor of students can hinder or facilitate their learning experience. Thus educators need to consider reading materials from socio-affective and cognitive perspectives when instructing HARs.

In addition, as mentioned before by SLC5, if a HAR learns quickly and progresses right through the available reading material, the upper school's teaching plan might be disrupted. The problem of transition arose – how a HAR could be transferred successfully from a lower grade to an upper grade to be taught consistently and systematically if they have already read the texts normally taught at these levels.

For SLC3, using more differentiation rather than acceleration was a solution: "*It was not just the next book, and next book. There are other ways to support… It's then trying to get the depth and comprehension skills, everything to support right about".* This might indicate that the schools thought that they addressed in-depth reading and a deep obtaining of knowledge rather than simply accelerating the learning pace of HARs.

6.8 Collaboration with Related People for HARs' Education

Responses from literacy coordinators indicated that they used a collaborative approach to benefit the education of HARs. They intended to collaborate with many related people who could be regarded as educational resources, including children's families, the governmental support team, teachers' colleagues and upper schools.

The response from SLC4 indicated how teachers in her school asked for advice from upper grades to advance HARs' reading:

> *If you get a really highly able pupil in Primary 2, you might go to Primary 3 to say, "What are you doing to challenge in your class? Because I'll give that to this pupil, because he is at your level now. So what could I do for him?" Ok, if you come to Primary 7, and you might go to secondary staff in the academy, "What are you doing? What could I do to trying challenge him?" So you are not having to think on your own on everything, but you are able to sort of almost (have) professional dialogue to each other, which is really helpful… (SLC4)*

Professional dialogue with their colleague in the next stage was one kind of information source for Scottish teachers. This joined-up approach was encouraged by the school management team:

> *'Cause in attempting to raise attainment, you have to have these conversations, you know, to see next steps for the pupils. And it's up to the management to track that… 'cause staff need an understanding and a confidence to talk openly and not to deal with the criticism of each other. (SLC1)*

This indicated that the management team considered that accelerating HARs to the next level was an effective strategy to meet their educational needs, and hence, professional dialogues between teachers in each level should be encouraged. For the last years of primary school, the literacy coordinators also thought that collaborating with secondary school was important:

...we take advice from the secondary school as well. So we work quite closely with [High School anonymised], because we've got transition meetings...some of the secondary teachers will work alongside to make sure we provide... We might use resources from [High School anonymised] as well. (SLC3)

Collaborating between primary school and secondary school could ensure that gifted learners are taught at their actual ability level consistently. For SLC3, parents played an essential part in HARs' reading development as well:

Well, so we involved the parents quite a bit. So we would sit down, uh, and I would hold regular meetings with Mum and Dad and the wee one. (SLC3)

In SLC3's consideration, the regular meeting with HARs' parents might improve parents' knowledge for their highly able children, facilitate teachers to understand how HARs perform at home, and as well lead parents to educate HARs at home in an appropriate way. All these responses implied that the participant schools sought to collaborate with people who were available to provide reading materials, advanced activities, or just extra time to their HARs. The available resources were utilised by them to a full extent.

6.9 Scottish Teachers' Professional Development

The responses from participants illustrated that there were several ways for Scottish teachers to increase their knowledge of gifted education. Learning from colleagues was mentioned for the most of time by literacy coordinators, as well as by teachers:

So it's just about teachers just trying to share with each other what works, what doesn't work, uh, speaking to another colleague. (SLC3)

...professional development is not all about courses. It's about opening your eyes to good practice in other places, and even within your own school, you know. Peer observation, going to watch stage partners or whatever, another people in the department. (SLC2)

The ways to learn from colleagues can be professional dialogue or peer observation. Teachers choosing to learn like this might be due to these ways being convenient, easily accessible and can provide vivid and fresh ideas and more interaction. For professional dialogue, it could happen between regular meetings or just in a short tea-and-coffee break. Furthermore, according to SLC2, visiting other schools to learn from teachers' counterparts regarding gifted education was another effective way. Overall, SLC2 noted that her responsibility was that *"sometimes it's simple as ensuring they have the right resources, the right training opportunities, if there is any professional development they would like to try to support learners in the class".* It appeared that she took a positive attitude in relation to her teachers to improving their teaching in terms of engaging and developing all children, which of course included gifted children.

6.10 Conclusion

The views of teachers and literacy coordinators presented in this chapter illustrate how Scottish teachers understood HARs and used texts to develop HARs in the primary school. Overall, Scottish teachers perceived that HARs were more proficient at a variety of reading activities, such as decoding, comprehension, and higher-order thinking abilities. Most Scottish teachers also perceived that home environment and school education were much more important in the origin and development of high reading ability than inherited abilities. Literacy coordinators demonstrated that schools and practitioners had responsibility to develop every child, of course including HARs. In accordance with literacy coordinators, the findings also suggested that Scottish teachers had an awareness of how to develop HARs appropriately and tried to provide a wide range of suitable texts for HARs, although resourcing could be problematic sometimes. Many Scottish teachers also used efficient strategies, such as differentiation, independent learning, and grouping, to meet HARs' learning needs. According to both teachers and literacy coordinators, they collaborated closely with related people to provide available sources and education to develop HARs to a large extent. However, the analysis also highlighted some problematic issues such as insufficient ICT resources, a lack of professional knowledge regarding HARs and difficulty for HARs transitioning from primary school to secondary school to receive systematic reading instruction.

Chapter 7 Main Study - Findings and Analysis of Interviews in China

7.1 Introduction

Chapter 7 focuses upon interview data in relation to the teaching experiences of literacy teachers in three primary schools in China. The three research questions addressed in this chapter are as follows:

1. How do primary teachers conceptualise gifted readers in China?
2. Do primary teachers use children's literature to nurture gifted readers in China? If so, what kinds of children's literature do they use?
3. How do primary teachers teach gifted readers in China?

Similarly, for the previously described field work in Scotland, there were two groups of interviewees in China: primary literacy teachers and literacy coordinators. Sections 7.2-7.4 of this chapter present findings and analysis for the interviews of teachers. After conducting a thematic analysis, three main themes and their sub-themes emerged and they are presented in Table 7.1.

Main themes	Sub-themes
Teachers' conceptualisation of gifted readers	Gifted reading ability The home environment and the school education Inherited abilities Instruction of gifted readers
Reading resources used for gifted readers	The use of textbooks for gifted readers The use of extracurricular texts for gifted readers
Teaching of gifted readers	Differentiation for teaching Allowing independence Collaboration with parents Other strategies Influence of exam-oriented learning and teaching on gifted education

Table 7. 1 Main themes and sub-themes derived from Chinese teachers' data

Sections 7.5-7.8 focus on the interview of literacy coordinators. The data evidenced four key themes in relation to literacy coordination:

1. Sourcing reading materials for gifted readers
2. Teaching of gifted readers
3. Collaboration with related people for gifted readers' education
4. Chinese teachers' professional development

The presentation of data in this chapter is the same as that in the previous chapter for Scottish interviewees. It is based on the findings and initial analysis of chapters 5-7 so that deeper analysis, synthesis and comparison could be then conducted in chapter 7.

7.2 Chinese Teachers' Conceptualisation of Gifted Readers

This section examines the four sub-themes in relation to Chinese teachers' understanding of gifted readers. These are: gifted reading ability; family and school environment; inherited abilities; and gifted readers' instructional needs, all as conceptualised by Chinese primary teachers. These themes serve as headings in this section.

7.2.1 Gifted Reading Ability

In this study, all Chinese teachers interviewed described gifted readers as being those who had demonstrated their abilities through past performance. They perceived that gifted readers had read a wide range of books and had understood them in much more depth than their peers. They also perceived that gifted readers were proficient in a variety of abilities and skills. The following example illustrates how a Chinese teacher understood gifted readers based on their performances:

> *Firstly, he/she has relatively read a wide range of texts, which is only my personal view. Secondly, he/she has an in-depth thinking towards some issues. It is obviously beyond his/her peers ... Thirdly, I think, in addition to an understanding of the text to some degree, he/she should have his/her unique thinking. His/her sensitivity is relatively higher towards things around him/her, and he/she has his/her own independent thinking… I think being beyond their peers is how gifted readers present to us. (CT1)*

CT1 especially stressed that gifted readers had more unique and independent thinking – they reason, think critically or relate to prior experiences when reading. Chinese teachers also thought that gifted readers could acquire information much more quickly and were more able at knowledge application than their peers. CT5 emphasised that gifted readers had a large quantity of knowledge that was achieved from reading a lot and that they would comprehend knowledge and quickly apply it to understand other questions:

> *I think at first they should have read a variety of books… Secondly, they have obtained much extracurricular knowledge. Some of the students responded to my questions very quickly in the class… (CT5)*

Interestingly, application or output was specifically mentioned by many teachers. A majority of the teachers mentioned that gifted readers were not only superior at reading, but also superior at oral and written expression due to the knowledge input from reading:

> *A student who is gifted at reading will also present at writing… His/her writing is very beautiful. There is no need to attend any training class for writing. (CT2)*

> *…they are better at language expression than other students. I think it's because of their input from extracurricular reading. (CT5)*

> *For those kids, you will find that what he/she learns from extracurricular reading will present in his/her writing, so their writing is more in-depth than other kids. Other kids are just talking about stars or other superficial issues, but the mind and thinking of gifted readers is different. (CT6)*

It seems that the teachers perceived that the abilities of reading, writing and speaking could not be separated. When CT6 was questioned in relation to her understanding of underachieving gifted readers, she quickly mentioned a child in her class who performed disappointingly in writing. This could be interpreted as her relating writing ability so closely to reading ability that it could even be used to measure one's potential for achieving gifted reading ability. This might indicate that, for Chinese teachers to identify and assess gifted reading ability, speaking and writing were also two important perspectives to have.

In addition to the cognitive characteristics of gifted readers, many teachers also perceived that affective abilities were crucial in identifying gifted readers. They thought that gifted readers should have a great interest in reading:

> *In my personal view, I think a child who likes reading from the bottom of the heart, doesn't need others to push, can independently transfer reading ability to one of his/her abilities is a real gifted reader. (CT4)*

The teachers' understanding of the inner interests of gifted readers was in line with how important Gagné (2004) considers the role of motivation to be in the process of transferring gifts to talents. He argues that a high level of interest, or rather passion, as one of the intrinsic motives, could guide gifted learners through difficulties due to the pleasure of doing the work, and finally to achieve any set goals (Gagné, 2004). Indeed, young children in primary schools do not have as many extrinsic motives to learn as adults (e.g. making money for a living, or gaining high social status), thus inspiring them to simply enjoy the primary pleasure of reading would contribute to achieving gifted reading ability.

It could be seen that to define a gifted reader, a form of comparison of performances with similar-aged peers was undertaken by almost all of the teachers. Terms for comparison, such as '*relatively*' or '*comparatively*', '*more than*' and '*different from other students*', were often used by teachers to describe abilities of gifted readers. Based on this kind of implicit comparison, the way teachers' identified gifted reading ability was to compare them to the lesser reading abilities of other students rather than to mention a new ability that was only demonstrated by gifted readers. To be compared by teachers and to be identified as gifted, their abilities needed to readily be seen. As no Chinese teachers considered the possibility of underachievement, there was a risk here that underachieving learners would be ignored because they did not demonstrate their giftedness and so were unnoticed. This implied that the literacy teachers might not intentionally plan for them in mainstream class teaching due to this lack of awareness.

7.2.2 Home Environment and School Education

All of the Chinese teachers noted that the home environment contributed to the development of gifted readers. Many of them even considered the family as the only determining factor for a child to become gifted. CT2 and CT7 gave their understanding of parents' impact on children:

> *I personally think that students of gifted reading ability were influenced by families. For other factors, I don't think they have special help for gifted readers. (CT2)*

I think parents play an important role in nurturing gifted reading ability. Before 7 years old, you can't rely on the school to do it. (CT7)

For CT7, it seemed that for young children, gifted reading ability was not fostered by school education and it was mostly the parents' responsibility to provide reading resources and guide their children towards high attainment. When asked to describe the parents or guardians of gifted readers, most of the teachers gave a picture that included occupations of relatively high socioeconomic status and also higher educational degrees:

(For the first gifted child), his father is an engineer and his mother is a nurse or officer… The second one, I know his mother is a piano teacher in Xinhai Conservatory of Music. His father seems to be an engineer in a research institute of telecommunication. The third one's mother is an accountant and his father seems to be working as company manager… They seemed to respect me very much and their level is very high. They placed great importance on reading ability of their child. (CT2)

Gifted children's parents usually have higher education degree. They also have relatively higher knowledge and wisdom and really pay great attention to family education. (CT3)

Olszewski-Kubilius (2008) notes that the family could have life values and beliefs that influence their children in a positive way and that in action they are also able to provide more educational opportunities or career opportunities through the family's accumulation of resources either in education, social relation or wealth. Value system and thinking, defined as cultural education capital, and persons who can facilitate the development of a learner, defined as social educational capital, are highlighted as of importance (Ziegler *et al.*, 2017). In the description of CT2 and CT3, these two teachers perceived that it was the parents' rich knowledge of, strong belief in, and high involvement in their children's education, as well as other related resources, that led to reading talent development.

In this Chinese context, unlike teachers' strong belief in the home environment, some of them took a relatively negative attitude toward school education in nurturing gifted reading ability.

> *... So I think teachers' encouragement can't promote gifted reading ability. I think it is home environment that influences gifted readers, because I had a class before, those highly ables were all nurtured by their home atmosphere. (CT2)*

> *Based on my experience with those excellent students, I think it is mainly family factor that nurtures gifted reading ability, because gifted readers read many books when they were small. Then we have over forty students, and our teaching is the same. Our students have different abilities. Most of them are nurtured by their families. (CT5)*

CT2 later commented that "*in a large class, you rarely provide special teaching aiming at a gifted child*", which explained why she chose to not emphasise school education to further develop gifted readers. The essence of these statements could be due to a shortage of teachers. One teacher needed to care for too many pupils at a time. Under this situation, it was not surprising that teachers might choose to meet the needs of most of the children as a priority and overlook the needs of gifted children. Although public school resources of teachers can be limited, family environments and abilities are varied. Thus, the family was regarded by Chinese teachers as the main source of special educational support for children's reading talent development, and meanwhile, the ideology among teachers could be that the teachers' responsibility was mainly to focus on the middle and lower group of students.

Although teachers were facing a serious challenge of limited resources, some of them still considered that the school could contribute to the development of gifted readers. CT7 suggested there should be cooperation between parents and schools:

> *If parents and the school can support gifted readers together, gifted readers can have higher achievement. (CT7)*

She acknowledged the importance of school education for gifted readers but, in accordance with her other statements, home education was still considered as the main power of children progressing into a gifted reader. CT1's conceptualisation about underachieving gifted readers also reflected the influence of home environment and school environment, although the former was still emphasised for nurturing high ability:

I think it is mostly because of unsupported family environment and probably also teachers' responsibility… So I think that's why he/she didn't present his/her inborn ability well. (CT1)

In summary, Chinese teachers regarded family environment as the main source to nurture gifted reading ability both before and after children enter school. It seemed that it was the education system that prevented Chinese teachers providing additional support for gifted readers. Then teachers formed the idea that family should provide additional support for gifted readers. This conceptualisation and the reality that Chinese teachers faced would imply a teaching approach without specifically consideration and planning for gifted readers in the literacy class.

7.2.3 Inherited Abilities

Although in the previous section it was stated that all teachers acknowledged the importance of the home environment, there were some different understandings for the statement: some of the teachers considered that, as long as enough family support was provided, children could achieve gifted reading ability even without high inborn abilities. In contrast, several teachers thought that, without inherited ability, children could not progress into gifted readers, no matter how education supported and encouraged them. The statements of CT4 and CT7 reflected the latter view:

Firstly, I think inborn factor makes a certain proportion. Secondly, I think language development before three years old is important… I think that kind of gifted reading ability has been formed before age seven. After seven years old, it is very difficult to nurture gifted reading ability… Nurture should be based on nature… If there is just nurture and not natural ability, it can't reach that gifted reading ability. (CT7)

There are subjective factors. But I think children's personal traits are more important… If you think this gifted ability is because of his/her family support, I don't think so, unless he/she is from a family that everyone including parents and grandparents is well-educated. This is inherited. I think it should be due to heredity... I think you can't change it. The gene is there and you can't change and transcend it. There are some children who are born with this kind of gifted ability. (CT4)

A view of the proportion of nature and nurture in relation to giftedness was expressed by CT1:

> *… I still believe there are inborn abilities, because our current science has proved that it is gene that decides many things. Although later education could help, it can't be denied that some children are indeed born to be more sensitive to some certain things… As my personal view, nature is more important than nurture. (CT1)*

These responses resonated with Gagné's DMGT which argues that outstanding performances are developed from raw and innate abilities (Gagné, 2004). Indeed, the influence of hereditary predisposition on human development has been recognised in a wide range of scientific research including social science (see, for example, Galton 1869; Howe 1997; Haworth et al. 2009). However, although genetic factors do contribute, this is not the sole pathway to high performances, according to Ziegler's AMG. Ziegler and Phillipson (2012) argue that excellence can also be achieved through substantial interaction between individuals and environment, whether individuals are identified as gifted or not at the very beginning. The view of regarding high innate abilities as the essential foundation of excellence would ignore other pathways to high achievement. Therefore, gifted reading ability can be regarded as achievable and not solely gene-based, especially for children in a very early period at primary school, in this the possibility of fostering gifted readers can be maximized.

7.2.4 Instruction of Gifted Readers

Teachers were asked questions in the relation to their expectations for, and perceived instruction of, gifted readers. The purpose of these questions is to examine if there is a gap between their perceptions and what they plan to teach as well as to identify obstacles or difficulties that impact on this situation. Many teachers noted that there was a need to provide appropriate education for gifted readers for their development. CT1 noted gifted readers would be disengaged if their instructional needs are ignored:

> *It can't meet his/her needs. For example, in the class he/she usually can't be satisfied. He/she is thinking very quickly when the teacher is teaching, and*

he/she must have lots of questions to ask. Once his/her instructional needs are not met, he/she will certainly absent-minded and feel bored. (CT1)

Like CT1, CT7 was also aware that inappropriate education would hinder the learning interests of gifted readers and could turn gifted students into problematic students in the classroom, and thus a strong advocacy for tailored education was expressed:

They are gifted. But if we don't adopt special education, and let them to be taught totally the same like others, it would be a saddest thing for him/her, right? He/she will make trouble in the class. Most of our teachers would think he/she is just making trouble. He/she wouldn't obey the rule and listen to the teacher… because he/she has understood what you are teaching him/her already, so he/she isn't interested at all. (CT7)

She continued:

We would really look forward to have special education under China's educational system. If we put gifted students into other students to study together, it will waste their natural abilities. (CT7)

This statement also showed that she perceived teaching gifted students separately from other students as more efficient. Although CT1 thought that it became problematic for gifted readers if inappropriate education is provided, he further commented:

… So when you asked about my expectation, I don't have a clear expectation. Because I still don't know much about it, so it seems I didn't do anything to them. (CT1)

For CT1, it seemed that he did not plan to specifically teach his gifted readers due to a lack of professional knowledge for instructing gifted children. If he was able to access such knowledge regarding gifted education, then the experience of gifted readers in his class might be changed. Interestingly, in the later interview, CT1 came back to the issue of teaching and summarised his perceived instructions for gifted readers:

> *I think firstly, we need to look at gifted readers' interests. If they are interested, and also they are more intelligent than others, then they can explore more in depth, and they can do better. Secondly, I think it is their conduct that we need to focus on… [Because] if they have strong ability but evil conduct, they would have a worse impact on the society. So I think the conduct is much more important. In addition, for my personal view, gifted readers can develop into a researcher. As a researcher, they don't need to be very sociable. They can indulge into their research. I think this is one kind of happiness. (CT1)*

It was interesting that this teacher stressed the moral aspect for teaching gifted readers. He gave an example of Adolf Hitler who he thought was a very intelligent man, but with his evil conduct he had exerted a very negative impact. CT1 also emphasised that teaching should be focused on the interests and the research skills for gifted readers. It seemed paradoxical that this participant at first stated that he did not know how to make appropriate provision for gifted readers at all but later gave his clear ideas. Possibly in the interview the teacher started to think about this group of gifted children and applied his knowledge about general learning and teaching to understand gifted children. There seemed a development of the thinking of this teacher in the interview process. The conflict was also presented in CT7's understanding of motivating gifted readers:

> *No need to motivate gifted readers anymore, because reading has already been part of his/her life. (CT7)*

This contradicted her previous conceptualisation of the need for continuous '*special education*' and her description of how a gifted reader causes problems when he/she is not interested in what the teacher teaches. However, it was this kind of lack of clarity and hesitation that implied that the teachers' knowledge of gifted education was not systematic and appeared fragmented. A lack of knowledge of gifted education could indicate that the teaching of gifted students in the classroom might be inconsistent and need to be improved.

7.3 Reading Resources Used for Gifted Readers

A majority of the teachers noted that their taught reading materials were mainly from prescribed literacy textbooks and there were few commercial texts for extension in the class.

The textbooks and commercial texts were respectively regarded as reading resources within the literacy curriculum and extracurricular reading resources, which meant that the former was essential to learn for every student and the latter was optional to read.

7.3.1 Use of Textbooks for Gifted Readers

The participant teachers reported using schoolwide print textbooks to teach literacy in the classroom most of the time. They often followed organised lessons in the textbook rather than adopting a pick-and-choose approach, which could indicate that most of the time all students, including gifted readers, read and learnt the same compulsory texts together. The teaching experiences of using literacy textbooks were described by CT7 and CT1:

> *Our current situation of education is that we are learning set texts together. We are teaching literacy textbook most of the time in the class. (CT7)*

> *Because we need to fulfil the planned teaching tasks, we need to ensure the teaching process first, so we can then do other things. But I feel I myself would like to follow my heart, so probably for the textbook, I would spend 60% or 70 % of class time on it, and I would also add other extracurricular stuff to the class. (CT1)*

It is acknowledged that textbooks could provide texts deliberately selected for good quality and guide teachers to instruct students in a systematic and organised manner (Greenlaw, 1990). However, this also meant that it was difficult to differentiate and accelerate for gifted readers in terms of the used reading materials in the classroom most of the time. While Austin (2003) notes that gifted readers need challenging reading materials to be motivated and engaged, some of the strictly organised lessons in textbooks might not suit their reading ability or interest and thus hinder their reading development. Furthermore, by following the compulsory textbook, some teachers felt that the time was very limited and guiding children to read real books in the classroom was rare:

> *In fact, it is still the textbook. Even our time for finishing the textbook is quite limited… I can't spend more time on extracurricular reading… There are many things that you need to teach, and you need to spend a lot of time on the completing the teaching plan, so you barely can find time (for extracurricular reading). (CT3)*

In this situation, teachers' maintaining the diversity of texts on offer within a class could be difficult. The issue in relation to the diversity of texts was noted by CT7:

> *I think for the current reading education, we just focus on literature… But I think our children should also read scientific texts. A lot of scientific texts are much more interesting than literature… The literacy reading materials should also include texts about other subjects such as geography, history, maths, physics and chemistry. We shouldn't just focus on one kind of genre or text. (CT7)*

CT7 recalled her experience with a student who had learning experience from attending a foreign school which provided them with a variety of books, including many scientific books. She argued that it was the diversity of texts that inspired the student to become a gifted reader. Her made it clear that she was concerned about the diversity of the texts in the textbook. Also, this might indicate that the prescribed textbook could restrict her independence for selecting a wide range of reading materials for children. Therefore, there was a need to use programmed textbooks more flexibly so that gifted readers could have more opportunities and spend more time reading what really matches their level and interests. The key issue here was not to deny the instructional meaning of using textbooks; rather it was to find a balance between textbooks and other reading materials for classroom teaching so as to ignite and challenge gifted readers as well as to guide other students to explore a wider world of fiction and nonfiction.

7.3.2 Use of Extracurricular Texts for Gifted Readers

Real trade texts containing children's literature and information were also recommended to children by teachers. These extracurricular texts were mainly read after class, and few were brought into class, possibly as the literacy textbooks occupied most of the class time. CT7 stated that they intended to extend children's reading experiences through recommendation for trade books:

> *But at this school, we also have recommended reading books for children to read after class. It is essential to read these books in this term… But this is not so often. (CT7)*

It seemed that this teacher considered that reading more trade books is critical for children for extension and enrichment but the focus of their strategy to develop children's reading is not on these books. Possibly they relied more on one textbook to develop all children's reading.

The responses from teachers also showed that they rarely recommended books intentionally and specifically for gifted readers:

> *Our book recommendation is for the whole class. (CT5)*

However, she continued:

> *But gifted readers will proactively interact with the teacher after class. They'll say, "Teacher, I'm reading this book recently." They'll share their reading with the teacher. Then the teacher will recommend some books to them… (CT5)*

It can be seen that gifted readers still had opportunities to be specifically instructed in a more casual way, although it depended more on their own initiative to communicate and their motivation to look for more instruction. This also indicated that their received education for development of gifted reading ability was unlikely to be systematic and consistent.

Although extracurricular texts were used to a limited extent in the classroom, CT1 mentioned that they would use digital texts in different forms:

> *There are textbooks and extracurricular reading materials. Yes, extracurricular resources, including some videos, animations, uh, audios… (CT1)*

These digital texts would bring children, including gifted readers, into a wider variety of texts and facilitate their development of digital literacy. Other forms of digital texts such as digital app books, and eBooks were rarely introduced by teachers due to lack of ICT devices. Although electronic books were considered as another important reading source of

convenience to diversify experience of gifted readers (Weber and Cavanaugh, 2006), the availability of ICT devices was far beyond the power of the teachers. This is something that requires promotion from the levels of the school and the government.

7.4 Teaching of Gifted Readers

Chinese teachers were asked questions in relation to their teaching of gifted readers. In general, Chinese teachers rarely intentionally planned teaching to meet the special needs of their gifted readers. Teaching methods and teaching content adopted were almost the same for every student in the class. The overall reason highlighted by teachers for this was that the class population was too large (40.86 pupils/per class according to Bureau of Education of Guangzhou Municipality, 2016) for one teacher to respond to all different levels of ability. Another consideration of teachers was that parents of gifted readers could be the main source of support and therefore changes to classroom practice were unnecessary. However, some strategies such as differentiation by means of in-depth questioning and allowing independence, although used to a limited extent, were still considered to develop gifted reading ability effectively. Other effective strategies such as acceleration or ability grouping were not mentioned by any of the class teachers.

7.4.1 Differentiation for Teaching

When discussing the issue of differentiation, most of the teachers stated that this teaching method was used on rare occasions. Only two teachers mentioned their use of differentiation, the main type of which was through multilevel questioning to address diverse learning needs:

> *We also consider about individuals' differences. We use different questions for children. That's the difference. (CT7)*

Another type of differentiation was through teaching different reading strategies:

> *In the class, we teach different reading strategies for children from lower year to higher year. For those gifted readers, they'll have a deep understanding and they'll apply that for extracurricular reading. We can see that. (CT3)*

Those reading strategies could include strategies at a lower level, such as reading word by word or scanning, to strategies at a higher level, such as relating texts to prior and contextual knowledge, reading pictures in texts, inference or self-reflection. By teaching these strategies, gifted readers were offered opportunities to enhance their higher order thinking skills, which are noted as important perspectives for teachers to nurture in gifted readers (Moore, 2005). In addition to these two types of differentiation, learning activities, reading materials, assignments and tasks, and teaching methods can all be modified to suit instructional needs of different individuals (Tomlinson 2001). Finally, differentiating the learning environment is also critical (Maker and Nielson, 1995). Thus, there was a need for Chinese teachers to differentiate in more different ways to promote learning opportunities of gifted readers to a full extent.

However, there were many pedagogical problems that prevented teachers from utilising differentiation. Indeed, when interviewed, Chinese teachers tended to focus more on reasons why they were not able to differentiate for those identified as gifted. Large class size was highlighted by teachers as the most difficult problem:

> *If I have this kind of students, frankly speaking, I can't specially take them into account due to the large class size. (CT7)*

> *We have a large class to teach in China. Frankly speaking, I can only give them little extra support. I can't manage differentiated teaching. It's all large-class teaching. Students are different, right? I can only teach in the middle level. So, after I listened to your research, I can't think of any special teaching to gifted readers. I have this kind of feeling. (CT2)*

While in East Ayrshire the average number of pupils in a primary class is 23.4 (Scottish Government, 2016b), the number in Guangzhou is almost twice (n=40.86) that (Bureau of Education of Guangzhou Municipality, 2016). The large class size and its influence was reflected in teachers' responses. It can be seen that the large number of pupils in the class led CT7 and CT2 to respond less to individual differences, possibly due to a lack of time to plan additionally for every ability level. Indeed, according to CT2, targeting teaching to the middle level seemed the most efficient but compromised way for teaching every student of

different abilities. This could also raise the question of whether struggling readers were appropriately taught. In essence, the difference between large-class and small-class teaching is in teacher-pupil ratio, which influences the teacher's attention to individuals, effort in planning of lessons and the quality of teaching (Blatchford *et al.*, 2007). Another teacher was in line with this by illustrating the difficulties she encountered when differentiating for the class:

> *For differentiation, it needs a lot of preparation. In addition to collecting resources, we need to consider how to deal with the mode. So I just occasionally did it, once or twice, but not too many. At most of the time I didn't differentiate. Although differentiation is the strategy I always want to do, but I have not decided to do it yet. (CT1)*

It seemed that the mode of differentiation in a large class was time-consuming for CT1, which might also relate to there being too many pupils that the teacher was responsible for. While the teacher-pupil ratio is more influenced by the economic and socio-cultural context, and not likely to change in the near future in China, a solution to implement differentiation for gifted students in such a diverse and large population with overcrowded classes needs to be explored. One solution could be shifting from teacher-directed differentiation to learner-directed differentiation. Kaplan (2017) advocates that teachers could teach more learning-to-learn strategies so that gifted students have the ability to implement self-directed differentiation in all learning situations. It would be more efficient and less time-consuming for teachers if gifted readers could be instructed to increase their learning independence. The change of the way of learning and teaching requires support from teacher education, as teacher education can support teachers to develop professional knowledge to teach learner-centred differentiation.

Whether it is teaching learning-to-learn or using differentiation for gifted students and indeed all students, teachers with sufficient knowledge are key to changing practice. Indeed, CT1 ascribed his infrequent teaching for gifted readers to insufficient knowledge and inability, although he was very much aware that the development of gifted readers was hampered by standardised teaching and content:

> *If he/she was given the same level of expectation and goals as others, it is no doubt that it will restrict his/her ability. But to find another way to teach him/her, I didn't reach that level of teaching. So I feel I just don't do anything. (CT1)*

Another response from CT7 presented a misunderstanding of gifted readers, which might also be due to insufficient knowledge or a misunderstanding about the characteristics of gifted students:

> *I rarely teach gifted readers, frankly speaking. The first reason is that there are few gifted readers; the second reason is that I think they have already read many books. (CT7)*

The first reason that she stated revealed that the focus of class teaching was still on other students who were in the majority and the few gifted readers could be naturally ignored; the second reason showed her misunderstanding that gifted learners do not need continuous support and instruction from teachers to develop. The core problematic issue here still related to teachers' knowledge. In addition, Buckingham (2003) notes that teacher quality is more important than class size on student achievement. As class size was outside a teacher's control, the quality of supporting gifted learners could be practically improved by increasing teachers' knowledge of gifted education.

7.4.2 Allowing Independence

Preference on working independently is considered a key characteristic of gifted children in some research (see, for example, Ruf 2003). One teacher mentioned that she would intentionally allow gifted readers to learn independently in the class:

> *We would allow him/her to learn independently what he/she is really interested in. There is no need to have one standard for everyone. We tried to allow him/her to read, not following us. They can be themselves, and learn by themselves. Yep. (CT7)*

It was interesting to note that in CT7's class gifted readers had personal choices in terms of reading content, the way of learning reading, as well as learning goals or expectations, as

she stated "*no need to have one standard*". This way of learning would certainly promote gifted readers to differentiate for and by themselves. CT7 further added:

> *For those gifted readers, we just respect their choices. I don't think kids in my class have this kind of gifted ability. We just let them do by themselves. (CT7)*

The statement showed that teachers in her school allowed independence to gifted readers but provided few instructions on how to read independently to really achieve learning goals and develop to skills and abilities. As analysed previously, Chinese teachers thought that large-class teaching hindered their individualised teaching. It seemed that letting gifted students work alone was a practical way to save teachers' preparation time and was more suitable for large-class teaching. However, working independently cannot be reduced to students working without any instructions and doing whatever the student likes. Neither does it mean that learning independently is more effective than collaborative learning. French et al. (2011) argue that the tendency to work independently could be based on personal characteristics as well as the learning context, which includes group composition, teacher and peer support. Thus providing more opportunities for gifted readers to work alone as well as work collaboratively with other peers is a better strategy to address learner variance.

7.4.3 Collaboration with Parents

Overall Chinese teachers intended to closely collaborate with parents to develop students' reading abilities, which was consistent with their perceptions of the importance of the home environment in inspiring and supporting gifted reading ability. It was essential for teachers to guide parents to understand the importance of reading and develop strategies to instruct children's reading at home:

> *After he/she entered school, we'll speak to their parents on the parents' meeting. For the literacy subject, probably you'll tell parents the importance of a good reading habit for literacy ability. We'll tell them the importance of reading, and then we'll tell them what the instructional method for reading of children in Year 1 or Year 2 is… (CT3)*

This showed that for maintaining continuity of children's education at home and at school, teachers were aware that there was a need for the students' family to share consistent educational beliefs with teachers. This was in line with Epstein and Sanders (2006) and Hornby (2011) who argue that a well-collaborated parent-teacher relationship exerts positive impact on academic achievement and socialisation of students of all ages. It is unlikely that gifted readers could get support in every learning context if their families did not understand gifted theories and practices that have been implemented by the school, and thus Chinese teachers sought support and cooperation from families of gifted readers. The problem of the constraint of reading resources was another motivation for teachers seeking collaboration:

> *(We'll) recommend books to parents, too. Parents will buy the majority of the books for their children's reading, because we really have few of these books for children to read in the class. (CT3)*

It is not just a lack of reading resource that strengthened Chinese teachers' motivation for collaboration. From the previous analysis, it can be seen that most of the Chinese teachers considered that it was difficult for them to provide additional preparation for gifted readers due to large-class teaching. This might also motivate Chinese teachers to look to parents to provide more challenging and extend reading experience for their gifted children. And teachers might regard depending on parents to provide additional gifted education as a more practical approach in this unique economic and educational context of China. This raised the issue of whether the family finance, ability and educational value of a gifted reader can provide sufficient additional support.

While teachers continued to mention parents as a key role in the development of gifted readers, it is important to note that they rarely mentioned other external support to assist their mainstream classroom teaching of gifted children. It was very possible that there is rare support from universities and governmental department for teachers to draw on as gifted education is not situated in the legislative and educational framework in China. The lack of external support also increases difficulties to specifically plan and teach for gifted readers.

7.4.4 Other Strategies

While differentiation was considered as an unrealistic strategy and thus rarely adopted in mainstream class teaching, other strategies such as extra challenging work, opportunities to perform, and communication after class were mentioned by several Chinese teachers:

> *In fact, we still have a little content for him/her to explore further after class. We make sure that we'll provide that space. And sometimes we have several left works for this kind of students to further develop. We also encourage other students to try more and write more. We need to finish the standard teaching objectives first, and then we can have some space for him/her to learn further. We often have it in class and after class, and our class practices also include it. (CT3)*

> *We also have some feedback (for gifted readers). For instance, we gave them opportunities to perform for the extracurricular reading activities. They can share their reading experience, which would promote their development to a large extent. (CT5)*

> *For myself, I just tried to… I just tried to satisfy his/her curious exploration after class, or tried to help him/her maintain such kind of curiosity to explore the world as much as possible. (CT1)*

It seemed that there was a clear boundary between class teaching and after-class teaching: the former was more standardised and static so that every student learned the same content in the same way and with the same learning objectives; the latter was more flexible thus providing the space and possibility for teachers to give additional challenges and encourage to gifted readers. This was highly influenced by the Chinese educational context of an exam-oriented system, which is discussed further in the next section.

7.4.5 Influence of Exam-oriented Learning and Teaching on Gifted Education

As an exam-oriented culture permeates every learning stage of the Chinese educational system (Fu, 2017), it was not surprising that the teaching of gifted readers was influenced by examinations. Sometimes it caused a predicament for the teachers: even though they understood that gifted readers need more differentiated instructions and enriched content for critical and creative thinking and independence, the teachers still needed to instruct

didactically and focused on the standardised content in the textbook because the final exam paper would test it. This was seen in a response from a Chinese teacher:

> *Probably most of the time, our priority is on how to deal with knowledge that will be tested by the exam, because their final exit is the exam. (CT1)*

This predicament led to the situation where education and practices considered successful for gifted children by Western researchers seemed not to be feasible and practical from the perspectives of teachers in the Chinese context. In this context, the washback effect of the exam on teaching strategies and contents was profound:

> *Whether it is expectation from parents or teachers' self-assessment, the focus is still the exam score. I think we cannot avoid the score. I think it is normal, because there needs an evaluation standard for everything, and you've just have that test paper. Indeed, it is difficult to use other forms of assessment. This causes that our teaching is on the settled teaching plans, probably based on that score and that test paper. But, although this is the case, I feel there is no other way to deal with it. (CT4)*

If the teachers use strategies such as inquiry reading or reading for research, instead of teaching knowledge directly and equipping students to get a final higher score efficiently, CT4 felt that she might not be working in ways compatible with parents' expectations and teachers' self-assessment. This could well be based on the final score of the class. Naturally this led to an emphasis of teaching to the targeted tested content and the teachers organised their teaching to fit into this system. As CT7 stated "*we can only do this in this educational system",* it seemed that she expressed she had no choice but to work in an exam-oriented approach.

It was important for the teachers to instruct exam strategies for gifted readers so that they could perform in ways that demonstrate their actual levels:

> *I personally think the educational system in China is still exam-oriented. The education is like this. I think you don't need to worry about this kind of children. You don't need to worry about his/her reading ability development. You don't*

need to worry about his/her understanding and aesthetics. To the contrary, I think if I were their teacher, I would focus more on their exam skills. I think their understanding for the texts is not a problem… But there are some problems for using literacy as a tool. For example, we need to know how they can present their abilities on the score… I'm more focusing on this. I think they don't need you to instruct them to read a text. They are already very good at it. It will be getting better and better when they are growing up. I think you don't need to worry about. So I think teachers are relaxed when teaching this kind of children. But you are sure that he/she will get reduction for score due to that they didn't integrate their ability to the exam skills well to complete a test paper. Thus the examination mark doesn't represent his/her ability. (CT4)

For CT4, the gifted ability for reading was so natural for gifted readers that it would develop under the current whole-class and standardised teaching approach and without any differentiated support. However, as the way of performing well was only presented through the test paper in this exam-oriented educational system, the exam techniques could become a more problematic issue for gifted readers. The teacher adjusted her teaching and gifted readers to fit into this Chinese educational context. It can be seen that the exam-oriented system shaped the learning and teaching of gifted readers. This also indicated that to improve Chinese teachers teaching for gifted readers, there was no meaning to simply blame teachers, and rather the whole educational system, including the way for assessing learners, should be reformed to allow diversity and the development of the potential of gifted learners.

7.5 Sourcing Reading Materials for Gifted Readers

While the previous section mainly presents teachers' pedagogical approaches to the teaching of gifted readers within the regular literacy class, Sections 7.5-7.8 focus on a wider picture as depicted by the four Chinese literacy coordinators in three primary schools. They provided an overview of the whole school in relation to how they addressed the needs of gifted readers. They also offered their perspectives on how they viewed their teachers' regular teaching of gifted readers. A consensus emerged that most of the time it was difficult for their teachers to provide gifted readers with individualised support within the regular class time due to the large class size, however, an after school class for gifted readers could provide many opportunities to further extend and enrich their reading experience.

All the schools were very aware that reading a variety of texts played a critical role in the development of students. They tried to provide a wider range of texts, increase accessibility of reading materials and create an encouraging environment for children's reading. Materials sourced included standardised textbooks for each grade, special funding for buying texts for the school library, and donation of books by children and their parents. Here are two examples of how the schools utilised available reading resources to enrich children's reading experience:

> *We've got support from parents. Instead donating books by parents, the parent committee in some classes would buy books and put into the class for children to read. When their children graduate, they'll pass these books on to the next class. It is very kind-hearted. (CLC3)*

> *Part of the books in our classroom reading corners is from the school, and part of them is from children who bring at least two books from home to exchange with other children. (CLC4)*

> *The school and every subject group have booked lots of magazines for our teachers. The teachers would also book interested magazines for themselves. We have a library… and the children would borrow books and take them to the class to read. There are class corners, too. In addition, our children would bring books from home and their families support this very much… They also exchange books with others in the classroom. (CLC2)*

It was interesting to note that in CLC2's response, the school made reading provision for their students as well as the individual teachers. The school tried to create a reading environment for teachers to increase their amount of reading. This indicated that they thought that teachers' reading was as crucial as students' reading because only when teachers had a passion and knowledge for reading could they guide their students to explore the wonderful world of reading.

Although electronic technologies have been changing life and reading habits of children in the primary school in China (Fan *et al.*, 2016), it seemed to be difficult for the schools to source material from electronic devices to enrich children's reading materials. Reasons explained by one Chinese deputy head teacher were that there was a lack of facility and no awareness about digital reading:

> *We don't have much electronic reading… It is mainly because we haven't really thought about that, and we don't have facilities for this. Therefore, we didn't research into how to really implement it. (CLC1)*

The participant also had concern regarding some issues such as children's physical health: "*it relates to health of children's eyesight*" (CLC1). It reflected that insufficient knowledge in relation to the role of screen reading in the development of children's digital literacy ability hindered the schools' provision of electronic reading. The lack of utilising electronic reading might also result in a failure of the schools to respond to change and to connect to children's reading life after school, and thus gifted readers' reading experiences might not be enriched to the full extent.

Literacy coordinators also emphasised encouraging and guiding children to choose and read a wider range of texts:

> *...actually in our school, except in-class reading, namely the textbook, we had almost ten years for the program of necessary reading list and recommendation reading list. It includes literary texts, scientific texts and historical texts. It even has texts about philosophy. (CLC1)*

It can be seen that fiction and non-fiction reading were regarded as playing an equally crucial role for children's reading development. She continued to address the importance of diversification of texts:

> *There are recommendations for reading from the Chinese literacy teachers… We would have more literary texts because the literacy teachers recommended. However, we hope the whole school can join us. So maths teachers, and teachers of other subjects all recommended texts about their areas. We hope in the class there many kinds of books for our children to read. (CLC1)*

It was interesting that in response to questions about kinds and genres of texts, no literacy coordinators particularly mentioned the role of children's literature in reading. Examples of texts given by the participants included some classical Chinese literature such as *Confucian*

Analects and *Outlook on Classical Chinese Literature* and children's literature *The Straw House* and *The Little Girl at the Window*. In the quotation CLC1 stressed that there was a need for teachers in all subjects to introduce books from their perspectives to children. This implied that diversification of texts was addressed rather than one special kind of text. For primary children, reading a wide range of texts could help them to expand their vocabulary and knowledge in diverse areas.

It is important to note that all literacy coordinators gave a full description regarding the sourcing and use of a variety of reading texts for all students. However, they didn't mention how this especially accommodated the needs of gifted readers and if there were any intentional and individualised considerations for gifted readers. It might indicate that there was not enough awareness regarding how providing and using these reading texts could develop gifted readers to a large extent and how to intentionally plan and select appropriate reading texts for each individual of gifted reading ability. Or it is possible that literacy coordinators assumed that it was the responsibility of teachers to use texts in different ways to support their students.

7.6 Teaching of Gifted Readers

All Chinese literacy coordinators acknowledged that contents and pedagogy for classroom teaching was the same and standardised for every student. They stated that individualised teaching for gifted readers in the class was very limited and difficult. Within regular classes the teachers addressed the needs of gifted readers mainly through differentiation of questions, heuristic questioning, encouragement and opportunities to perform:

> *How could we make up for this kind of large-class teaching? When we know children have higher ability of reading and his/her ability is different from others, we could only encourage him/her… For those children with high ability, we didn't teach them to be highly able. Rather I identify him/her ability and encourage him/her. (CLC1)*

> *Nevertheless, when planning for teaching, teachers have different attention and expectations for students of different levels. For some basic questions, teachers might choose students of middle or lower levels. For some abstract questions,*

> *like defining of the text theme, or some extended work, teachers have the awareness to choose highly able students to answer… Because we are in the context of large- class teaching, it might be difficult for our teachers to adopt different teaching methods for students. We can do it after class, but the time would be relatively short. So we can only provide students with different attention, which might be more practical. (CLC3)*

Other strategies, such as differentiation of reading content, acceleration, inquiry reading, ability grouping, collaborative learning and emphasising higher order thinking abilities, were not mentioned by these literacy coordinators. The reason for this might be that they really did not use these strategies, or it might be that they did use some of them but they were not aware how these strategies were connected to gifted education and their important role in the development of gifted readers.

The deputy head teacher CLC2 noted that the lack of a clear standard for teachers to identify gifted readers was a major problem:

> *But for gifted reading abilities that you mentioned, firstly you don't have any standards for this, so I can't give him/her a label to say he/she is. If you label a child with gifted reading ability, other ones would feel not fair… Because you don't have an identification standard, you just feel he/she is relatively outstanding and maybe he/she has giftedness in this area or interests, or other reasons and factors, or his/her parents liking of reading books has influenced him/her, right? There are many factors that influenced him/her, so it's hard to define or label him/her. (CLC2)*

It appeared that CLC2 considered identification as the most fundamental step for legitimizing teaching of gifted readers and, without a school identification standard, teachers would be concerned about the issue of fairness and if they really teach in an appropriate way. However, for CLC2, a school identification standard was a problematic issue because there was no consensus on defining a gifted reader. It showed that she had a broad understanding of who the gifted might be.

As with teachers, literacy coordinators also regarded large class size as a critical issue for individualised consideration for gifted students:

In our system, due to large-class teaching, it is difficult to using different pedagogical strategies to address these gifted children. (CLC1)

Because we are teaching in a large class, so I think the way of teaching should be the same. (CLC3)

Large-class teaching meant that one teacher needed to care for too many pupils at the same time and also preparation for a class and giving feedback for students' assignments requires a substantial time. This meant that time devoted to each individual student was limited and thus additional consideration for gifted students was unusual. One principal teacher also felt that their heavy workload, related to being responsible for too many children, resulted in limited time to consider individual needs and plan for differentiated teaching:

There are insufficient staffs in the school. The difficulty is there. Especially now, I think we are very lack of teachers, so our working teachers are too tired, so our teachers are suffered from exhaustion very much. (CLC4)

Large-class teaching and teachers' high workload implied a shortage of educational resources in the primary schools involved in this research in Guangzhou. This finding was in accord with recent studies indicating that resources of primary education, including number of teachers and schools, is limited in some districts in Guangzhou (Luan et al. 2009; Sun 2015). The finding also suggested that resource inadequacy hindered appropriate provision for gifted students in the regular Chinese literacy class. In addition to limited resources, another concern emerged. Within class more attention was paid to the children of middle and lower levels:

Because we teach in large class, so we are more caring about lower students and middle students. For high ability students, we provide them opportunities to perform and present. But we rarely give them a systematic education, because we spend more time on our middle and lower students. (CLC3)

This quotation from CLC3 pointed out two interesting features of the current ideology of teaching. Firstly, students in the middle and lower end were the teaching focus because they should receive more support so that they could catch up and further develop, which could be related to the issue of achieving perceived educational equity by current educators. Secondly, there was a belief that students in the higher end of achievement could develop by themselves and what they needed was opportunities to present what they had achieved. This thinking impeded the teaching of gifted students.

Furthermore, the concept of compulsory education in a Chinese context influenced the teachers' conceptualisation of primary education, and subsequently influenced their ideas about the necessity of gifted education. This was presented in CLC4's response:

> *Sometimes I'm questioning myself. The 6 years in primary school and 3 years in middle school are only compulsory education after all. Sometimes we just let children to receive compulsory and basic education. (CLC4)*

It seemed that the conceptualisation of compulsory education by this grade principal teacher emphasised the standardisation of education for every child. In this way, everyone could receive a basic education. This meant that gifted education was not necessary and should belong more to specialised or elite schools. This understanding was shared by other participants:

> *I think we, as a general public school for children's nine-year education, belong to basic school. There are others schools aiming to foster elitists, right? If it is like this, maybe it is what we should do. (CLC1)*

However, CLC4 reflected her current understanding of compulsory education:

> *But there are many children who are gifted in some areas, like what you did in your research. But we, I think sometimes we don't provide him with suitable environment. But we have special provision for special students. We have a special room for emotional displays… for those ones who suffer from mental disorder. (CLC4)*

This quotation showed two interesting points. Firstly, she was aware that the development of gifted students was hampered in the current education structure. Secondly, after talking about gifted students, she immediately mentioned students who needed special support due to intellectual disabilities. This indicated that she thought that gifted children had an inner connection with children who needed special education as they all needed additional support for their development to some extent. This raised the issue of inequality for gifted learners. While the needs of children who needed special support due to intellectual disabilities were particularly considered, the needs of gifted learners were not.

Finally, one deputy head teacher thought that the exam-oriented system hampered their provision for gifted readers:

> *When students are entering the last year for graduating, parents would feel they should focus on the exam. They may not support so much for reading after class. But after the exam, parents will continue to support their children's reading. (CLC3)*

The influence of exam was presented through expectations from students' parents. They would require the school and their children to make getting a good result in the graduating exam a priority, as the final result might influence their entrance to secondary education. This finding was consistent with the profound influence of exams on the Chinese teachers' teaching for gifted readers, which has been presented in Section 7.4.5.

7.7 Collaboration with Related People for Gifted Readers' Education

Responses from all literacy coordinators suggested that the schools intended to collaborate closely with families of children for their development. Literacy teachers would seek parents' understanding of their educational belief and practices, and recommend books to parents and guide parents for instructional strategies of reading so that children were provided with a reading environment at home:

After class, our teachers would strengthen their contact with parents. Then the teachers would provide a reading list for their students and parents as a reference. Students then can have freedom to choose to read. (CLC3)

What we basically do is like this: after the children entered school, we would provide training for the parents… Because the children just entered the first year, we'll need the parents to know what their role should be for their primary children. Parents should have the belief. You can't say "I have put my child into school and the school should take all the responsibility to educate my child". We'll let parents to know that family education is more important than school education. After we have built that belief, the teachers would recommend books for parents to read with their children. (CLC2)

These quotations show that the schools thought that school education and family education played an equal or even more crucial role in the development of children. For the education of gifted readers, as analysed before, most of the time it was difficult for literacy teachers to provide individualised support to accommodate instructional needs of gifted readers in the regular class, thus like the class teachers, the literacy teachers seemed to regard assistance from parents as an important complementary aspect of education to further develop their gifted readers. This was echoed in the following responses:

…if this child is very able at literacy, there might be more encourage after class, and then there is cooperation with parents to recommend more quality books according to his/her interests and more learning platforms for him/her to develop. That's it. (CLC2)

For those gifted students, in China we have many educational organizations, so parents would send them to those places after class. (CLC4)

In addition to collaborating with students' families, the schools also sought to collaborate with other professionals in the area of children's reading development. The school of CLC2 often invited experts of reading, probably from higher educational institutions, to give lectures to teachers as well as parents. Although these lectures were for all children, gifted readers were still considered to benefit from these activities:

> *We also have lectures by experts in reading… Parents would understand how they could assist teachers' teaching from the perspective of family… And reading experts will also recommend books to parents. (CLC2)*

This indicated that the schools understood the importance of collaboration with related people for their students' development. While the schools collaborated with students' families and professionals in reading to seek to enrich and further developed the reading ability of students, they did not mention any support from other organisations such as any governmental departments and universities which aimed at developing practices of gifted education. The lack of this support would leave teachers alone to develop gifted learners and potentially impede learning experiences of gifted students.

7.8 Chinese Teachers' Professional Development

In general, Chinese literacy coordinators were aware that the development of gifted students could be restrained by their provision due to a lack of professional ability in terms of supporting gifted learners:

> *Because we themselves have limited capability. In the primary school, most of the time we are facing students of middle level. For those gifted students, we don't make much provision. We are restricted by our own capability. (CLC4)*

However, it appeared that there was a resistance for further developing their professional ability in the area of gifted education:

> *I think it is good to have teacher training for gifted education. Nevertheless, when everything is needed, it is necessary to select the most needed and core thing. Gifted education is more icing on the cake, and beyond the basic education. We need to make the most fundamental thing as our priority. Our teachers actually need to learn many things. Nevertheless, I think gifted education can help to broaden our horizon and promote our reading education. It is probably because our horizon is not broad enough, so we don't have better ideas and ways. If we have training for gifted education, it is good, I think, because maybe there are some teachers who need it. But if you mean all of the teachers all receive this training, it is not practical. (CLC1)*

This view indicated that this deputy head teacher understood the value of gifted education. However, it seemed that she did not regard gifted education as of equal importance to other areas. This was echoed in her conceptualisation of the aim of compulsory education in a Chinese context which was to achieve basic general education for every child of school-age rather than further developing abilities of gifted students. Renzulli (2005) argues that gifted education can benefit all students as it can serve as a laboratory for innovations for traditional pedagogy. If teachers can increase their knowledge of gifted education, it would help their teaching for all students due to a use of more innovative pedagogy and a better understand of talent development. Thus, schools needed to consider the area of gifted education as having equal importance to other areas.

7.9 Conclusion

The views of the Chinese literacy teachers and coordinators discussed in this chapter have presented the current teaching of gifted readers in three primary schools in China. The analysis indicates that, within the mainstream literacy class, teachers rarely planned for addressing the additional needs of gifted readers due to large classes and most of the time teachers suggested after-class reading activities and parents to further develop gifted readers. The analysis also highlights the gap between compulsory education and gifted education conceptualised by the Chinese educators. The concern of a lack of educational resource arose and this would hinder the development of gifted education and gifted students. This needs to be discussed further in the next chapter.

Chapter 8 A Socio-cultural Exploration of China and Scotland

8.1 Introduction

This research set out to find out how teachers understand and teach gifted readers through the use of children's literature in primary schools in China and Scotland. However, in the process of data collection and analysis, the focus of this thesis gradually shifted into understanding gifted readers and pedagogy, instead of studying the use of children's literature. This is because, while interviewing teachers in both countries, the researcher found that teachers did not have a particular use of children's literature for supporting gifted readers, and they focused more on the diversity of reading texts. The researcher gradually found that the data was much richer and pedagogical approaches of teachers to develop gifted readers were crucial.

In this process, the researcher also changed her original idea (namely focusing on children's literature only) to developing a broader awareness and understanding of texts, reading and pedagogy. This gradually developed when talking with teachers and understanding their actual work in the classroom. The development of the researcher is as important as the development of the research. The researcher also found that participants developed their knowledge for gifted children through answering interview questions. One example is that in an interview one Chinese teacher firstly acknowledged that he did not know how to support gifted readers, but following questions, he then applied his knowledge of learning and teaching to understand this group of children and formed very clear ideas. Many participant teachers asked the researcher for her own ideas about gifted children after the interview (Chinese teachers were particularly curious about what Scottish teachers did for gifted children). Also, some Scottish teachers started to consult "the insider", who was working in East Ayrshire education department for additional support and helped the researcher to contacted participant schools, with issues about gifted children. Indeed, research should involve the development of the research, the researcher, and the participants.

The previous chapters have discussed theories and models for gifted education and have presented findings and an initial analysis for each country. This chapter discusses in depth, explores the findings from both countries and arrives at conclusions from the data. It will analyse data through the theoretical frameworks that are constructed by Ziegler's, Gagné's and other researchers' work (see Chapter 2). Similarities and differences between China and Scotland are examined in order to better understand education for gifted readers in a particular country from the perspective of another country. Beliefs and pedagogical practices of Chinese and Scottish teachers are influenced by their own legislative framework, policies, educational resources and the whole system. Specifically, Ziegler and his colleagues' study on exogenous learning resources is useful in explaining why Chinese teachers tended to think less and took less action to address the needs of gifted readers than Scottish teachers. The discussion and conclusion of this chapter seeks to contribute to the areas of gifted education, reading education, reading resources – particularly digital texts, and teacher education – in order to suggest the ways in which Chinese and Scottish teachers can be equipped to support gifted readers.

8.2 Teaching Gifted Readers and Influence of Legislation and Policy

A thematic analysis for qualitative data from questionnaires and semi-structured interviews revealed the similarity between Chinese and Scottish teachers with respect to their conceptualisation of gifted readers and the influence of environment on the development. Chinese and Scottish teachers both recognised that gifted readers were more proficient readers than their age peers. They identified a range of abilities which included basic language skills, comprehension and higher order thinking skills. In addition to those cognitive skills, teachers in both countries also perceived that gifted readers usually had great interest and motivation to read and were more able to empathise with characters in the text. This understanding of gifted readers echoes that of a number of researchers including Catron and Wingenbach (1986), Dole and Adams (1983), Moore (2005) and Vosslamber (2002) who argue that gifted readers tend to demonstrate above-average cognitive and affective abilites in the area of reading. In terms of nurturing factors in the development of gifted readers, most of the teachers in both countries emphasised the environmental influences rather than genetic influences. How Chinese teachers viewed the issue of nature and nurture

is consistent with the view of Dai, Steenbergen-hu and Yang (2016) who note that in China generally people tend to perceive learning as more important than natural ability and thus there is a belief that giftedness can be nurtured. There is a large volume of published studies (see, for example, Yang and Zhou 2008; Ziegler and Stoeger 2017) revealing the critical role of environment in a human's development. Unlike Gagné(2004, 2012) who emphasises that excellent performances necessarily builds on naturally gifted abilities, Ziegler and Phillipson (2012) pay particular attention to environment and note that, even without identified exceptional inherited ability, the pathway to excellence can also be through sufficient support and educational resources in the learning environment. Chinese participant teachers believed that children with an enriched literacy environment and encouraging families would demonstrate high performances in reading. The conceptualisation of Chinese and Scottish teachers suggested that there was no cultural divergence at this point.

However, in relation to the role of school education in nurturing gifted readers, Chinese teachers held different views from Scottish teachers. The former thought that family education was the main power to progress and extend their children to become gifted readers because they believed that school education aimed only to provide basic education for every student. Scottish teachers believed that teachers should provide additional challenging texts and differentiate their teaching to accommodate the needs of gifted readers in their class. This view was supported by their head teachers or deputy head teachers. The interviews with Chinese literacy coordinators suggested that they believed that their education was compulsory education that aimed to generalise basic education for every student rather than to provide more education to students who were already at a higher level than their age peers. This is in line with the Chinese government whose current priority is to ensure that every student gains access to basic education (Dai *et al.*, 2016). In comparison, Scottish literacy coordinators argued that gifted children should be included in school education and should be provided with maximal learning opportunities. Also, this different understanding of the role of school education could imply that in mainstream class teaching Chinese teachers might address the learning needs of gifted readers less than Scottish teachers. Ziegler *et al.* (2017) highlight the critical role of educational resources in supporting gifted education. In this study, the educational resources that each country could provide to every student partly shaped the beliefs and practices of Chinese teachers and Scottish teachers in their support for gifted readers. Where resources are plentiful then support should become less of a challenge. However resources still require mediation for the learner. Simply having access

to resources may not be enough if the prevailing understanding of the purpose of education is to provide basic education.

The divergent construction of the position of gifted education in primary school education between Chinese and Scottish teachers also relates to whether the countries have legislated and published national policies regarding gifted children. For practitioners' systematic implementation of education for gifted children, firstly legislation is needed to define the legal framework for educators (Gibton and Ellen, 2001), and then under this legal framework educational policies can gradually influence school practices (Coleman, Gallagher, and Job 2012). While in Scotland there are laws and policies to ensure the rights of children with additional needs at a national level, there are none to particularly include those gifted children in China. The Standards in Scotland's Schools etc. Act 2000 states that:

> …it shall be the duty of the authority to secure that the education is directed to the development of the personality, talents and mental and physical abilities of the child or young person to their fullest potential. (Scottish Government, 2000)

This act required educators to develop the ability of children, including gifted children. Moreover, the Education (Additional Support for Learning) Act 2004 (amended in 2009) asserts that wider needs of children should be accommodated, and this means that the needs of gifted students definitely should be accounted for (Sutherland and Stack, 2014). Gifted education fits well in the inclusive educational system in Scotland and thus the rights of gifted students have been ensured in legislation.

In contrast, gifted education in China has never been supported by legislation and public policies that should be based on sound theoretical foundations. Thus the practice of gifted education has been mainly driven by individual teachers, schools or other organisations. Dai et al. (2016) argue that an absence of guiding policies at a national level could influence practitioners' perceptions towards the necessity of accommodating gifted students in the classroom. Thus teachers in different educational systems could conceptualise their roles in relation to the development of gifted learners divergently.

8.3 Centralised Educational System and Teacher Autonomy

When perceptions and actions of Scottish and Chinese teachers for gifted readers were being compared, the relationship between the degree of centralisation of an educational system, teacher autonomy and gifted education was gradually revealed. Garland (1997) relates autonomy to ability and power of an individual to act in a specific context. In the context of education, teacher autonomy enables teachers to design and provide best education for their students in different contexts. A centralised educational system with less curriculum autonomy can decrease teacher autonomy (Pearson and Moomaw, 2005). With curriculum, teaching materials, teaching objectives and teaching strategies 'set in stone', it is difficult for a teacher to have autonomous thinking for providing individualised support for a student and to appropriately address their learning needs.

The interview and questionnaire data revealed that, in mainstream class teaching, Scottish teachers had more autonomy than Chinese teachers in selecting teaching materials for their children. Within the classroom, Scottish teachers indicated that they used a wide range of fiction and nonfiction texts, such as nursery rhymes and songs, fairy tales, picturebooks, newspapers, poetry, reference books, magazines, and moving images. Selected by Scottish teachers, these texts were extracted from various reading resources. This kind of freedom and flexibility in choosing texts, empowered by the relatively decentralised educational system, provided possibilities to differentiate texts to accommodate the needs of readers of different abilities.

In contrast, although Chinese teachers thought that there was a need to use a wide range of different texts and even though they were aware that texts in the textbook might not be suitable for readers of different levels, they still had to use it. The system has adopted centralised examinations to assess the development of students so that they are able to enrol in secondary schools. As most of the required knowledge in the examination was in textbooks, Chinese teachers responded that it was their priority to complete lessons from the textbook. Often they did not have spare time for other extracurricular reading materials to enrich their students, because extracurricular reading materials, especially in higher primary years, were not regarded as important in helping pupils to achieve a high score. Teachers felt that there was a need to make sure all students acquired the necessary textbook knowledge,

and this was also required by parents. It seemed that the use of the textbook restrained teachers' autonomy and flexibility for sourcing texts from a wider world of texts and for extending and differentiating texts for diverse readers. It is at this point, as it has been discussed in Section 7.3.2, that Chinese teachers were demotivated to pay attention to individual needs and to provide differentiated instructions and reading materials to gifted readers.

This finding is echoed in a study that examines the heavily centralised control from the Ministry of Education of Jordan on its educational system (Mustafa & Cullingford 2008). Similarly to the situation in China, Mustafa and Cullingford (2008) point out that in Jordan mandatory and excessive content in textbooks has impeded teachers' autonomy in designing their own teaching methods and materials to meet the needs of students. In a centralised educational system, teachers, with less autonomy, would be obliged to focus more on the implementation of mandatory top-down instructions, rather than proactively and independently considering individualised support in each different context that is shaped by each diverse student. Tension between centralised teaching materials and differentiation of texts for gifted students has been highlighted here. Or rather, this was a tip of an iceberg that revealed the tension between a centralised educational system and additional education.

8.4 Pedagogical Practices

As discussed in literature review, many researchers highlight the critical role of school education in continuously developing gifted learners (see, for example, Borland, 2003; Ziegler, 2005; Gagné, 2010). The data indicated that, generally, in practice, teachers in Scottish primary schools adopted more strategies to accommodate the learning needs of gifted readers than Chinese primary teachers. This was consistent with the previous finding that Scottish teachers and literacy coordinators emphasised the undoubted responsibility of primary schools in developing gifted readers more than their Chinese counterparts. Scottish teachers mainly used strategies of differentiation, teaching higher order thinking, independent learning, ability grouping, mixed-ability grouping and collaboration with parents and colleagues to address the needs of gifted readers. In contrast, differentiation was not adopted by the majority of Chinese participants. Parents were regarded as the main source of providing differentiated and enriched reading experience for gifted readers. This

aligned with Chinese teachers' perception that family education was more important than school education for additional education thus parents should take more responsibility for educating their children. Those limited strategies used by very few Chinese teachers to address the additional need of gifted readers included oral encouragement, allowing independence for gifted readers to learn on their own, creating opportunities to perform, after-class instruction through informal chatting, questioning in different depth, and giving extra challenging assignments.

Although the findings indicated that Chinese and Scottish teachers adopted some strategies, it is always meaningful to explore in depth how, why or why not they adopted those strategies to support gifted readers in their particular socio-cultural and educational contexts. Hence, the details regarding these issues are now analysed below.

Differentiation

Both Curriculum for Excellence in Scotland and Literacy Curriculum Standards for Full-Day Compulsory Education in China stressed that practitioners need to consider individual differences and consequent diversified learning needs when they are planning teaching (Scottish Government, no date a; MOE, 2011). One strategy to address learner variance is differentiation. Brown and Morris (2005) and Connor *et al*. (2011) suggest that through literacy differentiation, learners can learn more effectively and achieve better outcomes in a mixed-ability class. As shown in Scottish teachers' responses, all of them involved differentiation to some extent when planning and teaching reading. For some teachers, the ways of differentiating were through providing texts with challenging language and content. When some teachers used a whole-class reading text in the classroom, they would ask more in-depth questions involving higher cognitive thinking for gifted readers. Some teachers also differentiated the reading experience of readers by organising different activities, which involved more openness, more independence and different expectations. As Tomlinson (1995, 2001) suggests that differentiation can be achieved through modification of content, process, or/ and product, and it can be seen that Scottish teachers differentiated for gifted readers with respect to these three aspects.

However, for each Scottish teacher, the ways for differentiating were varied. Some teachers thought that, while challenging texts were needed, teaching methods were the same for every student; some teachers used in-depth questions but did not mention other types of differentiation. In addition, as Vosslamber (2002) believes that gifted readers can read and learn faster than other children, Tomlinson *et al.* (2003) argue that there is a need for teachers to differentiate through adjusting the pace of instruction to respond their needs. In their responses in this research, Scottish teachers rarely mentioned increasing instructional pace for gifted readers.

In contrast, almost all Chinese teachers deemed that differentiation could not be used in their context because there were too many pupils in the classroom and only one teacher (with no teaching assistant) was responsible for all of the pupils in a class. Imtiaz (2014) notes that teaching in a large class often means that limited attention can be paid by teachers to each student, making differentiation very difficult. Also, various teaching methods such as active learning and independent learning cannot be practised (Marais, 2016) as more attention needs to be paid to maintaining the quality of learning. In addition, in an overcrowded class, teachers need to spend more time and energy on administrative tasks, classroom management and discipline and thus less time is available for teaching (Mustafa *et al.*, 2014). Compared to around 23.4 pupils in a classroom in East Ayrshire (Scottish Government, 2016b), the average number of pupils in a classroom in Guangzhou is 40.86 (Bureau of Education of Guangzhou Municipality 2016). It can be clearly seen that, due to having almost twice the number of pupils in a Scottish classroom, Chinese teachers are facing a greater challenge in order to differentiate than Scottish teachers. Ziegler and Baker (2013) and Ziegler *et al.* (2017) point out that insufficient educational resources, including funding and qualified teachers, would impede talent development. The exploration of Chinese and Scottish teachers' use of differentiation reveals how insufficient teachers, who in addition may not be familiar with gifted education concepts, and large class size might impede the development of gifted learners.

Independent Learning

Researchers (see Bolhuis and Voeten, 2001; Lau, 2017) argue that involving learners' high autonomy and a belief in lifelong learning, should be regarded of great importance for education. Independent learning is a natural fit for gifted readers. Many researchers suggest

that gifted readers can be provided with more opportunities by teachers' assistance for independent learning such as inquiry reading and research reading (Dooley, 1993; Moore, 2005; Miller, 2009). The skills and abilities that independent learning requires and promotes are echoed in the literacy curricula in China and Scotland as both of them emphasise student-centred learning (Scottish Government, no date a; MOE, 2011). However, this research found that, in practice, while some Scottish teachers used independent learning or used elements of independent learning to develop gifted readers, very few Chinese teachers mentioned independent learning for gifted readers in the literacy class. Among all kinds of independent learning, raising heuristic questions and leading gifted readers to explore by themselves were used most infrequently by teachers in both countries.

Scottish teachers encouraged gifted readers to have personal choice for reading materials, to design their own learning methods as well as to conduct research projects by their own. Treffinger (1993) argues that children can become effective independent learners through proactively involving themselves in the process of identifying their own learning needs, setting appropriate goals and conducting reflective self-evaluation and modification. While identifying one's own needs and setting goals is also important for independent learning, most of the Scottish teachers only emphasised the learning process of gifted readers. Gifted readers could be allowed more independence and achieve more learner autonomy by identifying their own needs and setting their own goals.

Although a curriculum reform was initiated by the Ministry of Education of the People's Republic of China in 2001 which was intended to transform an examination-oriented and teacher-centred system to a learner-centred quality educational system (Hughes and Yuan, 2005), sixteen years later, this research still shows that teaching in primary schools is mostly teacher-centred relying on traditional pedagogy and making examinations a priority. This finding was consistent with the study by Chen (2015) who notes that learner-centred teaching has not been used most of the time in today's Chinese classrooms due to the fact that it is conceptualised by practitioners as inefficient to promote good exam results. Moreover, Chen and Day (2014) argue that this is unlikely to change as long as requirements to enter secondary and higher education are still achieved by competitive examinations. As independent learning is highly student-centred, it is not surprising that those Chinese literacy teachers did not intend to use independent learning as a strategy to develop gifted readers.

However, in a Chinese primary school context, high achievers in reading, like their counterparts in a Western context, were also found to be more self-regulated learners preferring and using many meta-cognitive strategies to achieve academic success (Law *et al.*, 2008). Therefore, there is a need for Chinese teachers to provide more independent learning opportunities to accommodate learning style of gifted readers. It is also important to note that the conflict between the whole examination-oriented educational system and gifted education has been revealed here again.

Grouping Strategies

According to the questionnaire and the interview, within-class ability grouping was utilised by many Scottish teachers intending to benefit gifted readers and other children. Ability grouping has been recommended by many researchers for its positive influence on gifted students' academic and affective development (see, for example, Shields 2002; Preckel et al. 2010; Steenbergen-Hu et al. 2016). This strategy groups students of the same potential or ability together and thus the teachers can ensure challenging instructions and teaching materials for all the students in this group. For those teachers, differentiation can then be easily implemented for each ability group. Meanwhile, many researchers suggest that middle and low ability groups can also benefit due to more appropriate instructions and materials being provided (see, for example, Israel, Sisk and Block, 2007; Nomi, 2009). This approach would seem to fit well in the Sottish system where it tries to offer maximum opportunity to all, but the concerns around ability grouping are well rehearsed within the literature (Hallam, 2004). Careful thought has to be given to using this approach if it is to benefit all learners and further emphasises Gagné's concern around "chance factors" (Gagné, 2010). Scottish teachers also adopted mixed-ability groups. There were two ways in which Scottish teachers formed children into mixed-ability groups. One way focused more on group diversity, and thus a gifted, a middle and a lower end are needed in a group; another way ensured that there was just slight difference between each group member so that tasks were not too easy or too hard for each one and they could work more collaboratively. By doing this, Scottish teachers believed that children could understand and learn from each other through cooperation and peer support.

While ability grouping and mix-ability grouping were popular among Scottish teachers, none of their Chinese counterparts mentioned the use of these two strategies to promote gifted

readers. One reason could be that when they did use grouping strategies for their students, they did not relate it to gifted students and how this strategy could especially benefit gifted students as well as other students. A more likely reason could be that grouping strategies were rarely used in the literacy class as little research has been undertaken regarding primary Chinese teachers' use of ability grouping and mixed-ability grouping within literacy class. Indeed, whole-class, teacher-centred teaching occupies most of the class time in Chinese literacy classes (Rao *et al.*, 2013). The absence of these organisational strategies relates to the special Chinese context. Firstly, as these teachers regarded examinations as the priority, learning the mandatory and examination-required knowledge in the textbook together is the most effective approach to adapt to this education system. There was naturally no need to differentiate instructions and reading materials through different grouping strategies. Secondly, as it was large-class teaching, there would be little time and guidance of a teacher to allocate students to each group and thus there might be fear of inefficiency for children to learn in this way. These two problems respectively reveal the tension between the exam-oriented, highly selective educational system (with a shortage of teachers in China) and gifted education. As discussed in Section 2.4.1.4, grouping strategies are effective in developing learners of different abilities, both from cognitive and social-emotional perspectives (see Preckel, Götz and Frenzel, 2010; Adodo and Agbayewa, 2011; Chiu, Chow and Joh, 2017)). Chinese teachers could provide gifted readers, indeed all readers, more appropriate learning opportunities through the use of grouping strategies.

Higher Order Thinking

Promoting higher order thinking abilities for gifted readers was considered of great importance among all Scottish teachers. These higher order thinking abilities could include evaluation, inference, critical thinking and creative thinking, and meta-cognitive skills. Whenever planning literacy activities or using the previously discussed strategies (e.g. differentiation and ability grouping), Scottish teachers acknowledged that these was a need for them to integrate higher level thinking into these activities to suit the needs of gifted readers. In Section 7.2, it was found that Scottish teachers conceptualised gifted readers as demonstrating higher order thinking abilities in reading, and thus, in order to teach them, these abilities should be further developed. Their teaching practices aligned with their conceptualisation of gifted readers. In comparison, although the perceptions of Chinese teachers of gifted readers with respect to higher order thinking were the same as those of Scottish teachers, they did not clearly demonstrate an understanding that these abilities were

important in their teaching of gifted readers. Various research findings point out that higher level thinking activities and questions should be provided to gifted readers to extend their thinking (Walsh et al. 2017; Moore 2005; Vosslamber 2002). Chinese teachers could improve their teaching for gifted readers by integrating higher order thinking practices.

Impact of Examination-oriented Teaching and Learning on Gifted Education

Dai et al. (2016) note that the current examination-oriented educational system with intense competition in China has exerted both positive and negative impact on educating gifted students. In this research, on the positive side, educators and parents attached much significance to education, and thus they devoted unrelenting efforts to promote their children to higher and better education. On the negative side, however, most of the time educators and parents' efforts were guided by the standard curriculum and final examinations. Often this also meant that teaching and learning were restricted by the curriculum and examinations to a large extent. More appropriate provision to address gifted learners' individual talent and interests, which might be outside of the curriculum, could be ignored. Dai et al. (2016) point out that Chinese society's pursuit of uniformity and conformity contradicts ideas of pluralism, diversity and creativity that are key aspects of gifted education. In this research, a wide range of reading materials which were outside of the standard curriculum and textbooks became of secondary importance when reading them conflicted with exam content. Chinese teachers rarely used differentiation, independent learning and ability grouping. This was partly because whole class-teaching for the content in textbooks was still considered to be the most effective approach to achieve success in an examination-oriented educational system. Also, the autonomy to differentiate and to bring more up-to-date reading materials to the classroom by the teachers was impeded when content for teaching and examinations was prescribed. Therefore, as long as the educational system continues to favour centralisation and standard examinations, depending on Chinese literacy teachers alone to provide a thorough new literacy education for gifted readers is not practical.

8.5 Access to and Knowledge of Reading Texts

Readers nowadays have experienced an explosion of diversity of texts either in terms of contents, medium or forms. Terms, such as financial, computer or digital, have been

associated with texts to describe and broaden the concept of literacy. The ability to read and write these various kinds of texts serves as the foundation to access information and knowledge in the new era. Therefore, for primary education, there is a need for practitioners to utilise these various kinds of texts to prepare children with new era literacy abilities to response to the fast changing future. Specifically, for gifted readers, educators can source from all these diversified texts to satisfy curiosity and continuous learning needs of pupils.

The findings showed that Chinese and Scottish teachers both emphasised that there was a need to maintain diversity of reading texts, which was in line with the curriculum in each country (Scottish Government, no date a; MOE, 2011). While primary teachers in both China and Scotland did use children's literature to develop readers, which of course included gifted readers, teachers also considered that informational texts were as important as literary texts for the reading development of their children with different levels of reading abilities. Many Chinese teachers and literacy coordinators even mentioned more adult classics, such as "*The Analects*" and "*The Rules for Students*", than children's literature as important teaching materials for developing children's literacy. These adult classics, which were written by ancient Chinese philosophers such as Confucius, mostly address the moral development and cultural inheritance of children.

While Scottish and Chinese teachers were all aware of the importance of informational texts, from the data it seemed that the former had more opportunities to access and use these texts. Within mainstream class teaching, Chinese teachers devoted most of their time to the literacy textbook emphasising story-based narratives. This meant that while reading content could be systematically provided, reading experience could be limited by the textbook for gifted readers. This is not denying that the textbook can provide quality texts. However, the diversity of informational texts could be impeded due to insufficient sourcing from a much wider world of texts. As informational texts could serve as a different stimulus to develop various literacy from literary texts (Leal and Moss, 1999; Job and Coleman, 2016), overemphasis of classroom teaching on the standard textbook could restrain the reading interests of gifted readers and opportunities to develop their broader literary abilities.

In addition to print texts, multimodal texts were also studied in this research as they could serve as another resource pool for teachers to extend and enrich gifted readers' reading experience. Multimodal literacy can thus be addressed by teachers' integrating language, arts and technology into the classroom (Olthouse, 2016). The use of multimodal texts situates well in the overall literacy framework of Curriculum for Excellence in Scotland, as this curriculum (Scottish Government, no date a) highlights that practitioners should develop children's ability to effectively communicate through a range of different media in the 21st century. The curriculum also outlines the need for classroom teachers to use various texts that would appear in children's daily life to develop children cognitively and affectively (Scottish Government, no date a). By contrast, there is an absence of multimodal literacy and multimodal texts in Literacy Curriculum Standards for Full-Day Compulsory Education in China (MOE, 2011).

Although multimodal literacy and digital texts have been addressed differently in the literacy curricula in China and Scotland, classroom practices for gifted readers in terms of screen reading were almost the same according to the interview and questionnaire responses. The findings indicated that print texts were used by Scottish teachers most of the time for class teaching and, when multimodal texts were used, they were usually used for helping children with dyslexia. There was also a disparity between Scottish teachers' attitudes regarding electronic reading: some teachers preferred just using print texts because they thought that children nowadays had spent too long in front of a screen; some teachers would like to use digital texts but a lack of ICT facilities in the classroom impeded them to access more diverse reading resources. In China, the findings also illustrated that multimodal texts were rarely used, and more specifically, print textbooks were the focal materials for reading in regular class teaching. The Chinese literacy curriculum contributed to the absence of multimodal literacy and texts in the teachers' teaching plan. In addition, insufficient ICT facilities were also an influencing factor as this provision was beyond teachers' control. This implies that gifted and other readers' reading experience could not be changed in the classroom by relying on teachers alone, and rather it needs to be an endeavour of the school, the government and the teachers together.

The research also investigated teachers' use of digital app books in the classroom, as these new books are springing up and becoming more popular in children's daily life. Much prior

research (see, for example, Sargeant 2015; Koss 2013; Aliagas & Margallo 2017) shows that the interactivity between the child and the digital app text, through exciting technologies of video, audio and touchscreen, strengthens children's engagement and promotes their learning autonomy. The results showed that neither in China nor in Scotland did teachers have a clear idea of what kind of book this is or how to utilise them for their students. Consequently, teachers did not bring this reading resource into the classroom to enrich gifted readers or other readers' reading experience. There is a need for teachers, schools and policy makers to increase their sensitivity to the change in children's reading habits and to make sure that reading curricula can quickly respond to children's actual daily reading in this new digital era.

8.6 Collaboration with Parents and Professionals

The need to closely collaborate with parents to extend the learning experience of all children, including gifted readers, was a consensus arrived at by all practitioners in China and Scotland. As discussed in Section 7.2, all Chinese and Scottish practitioners considered the important role of the reading environment and family support at home in developing gifted readers. In addition, Chinese teachers were especially of the view that, even though the children were enrolled in school, parents should not shift their responsibilities for educating their own children solely to the school.

Scottish and Chinese practitioners intended to ensure consistency between schools' and families' educational beliefs and practices. Various researchers have pointed out that collaboration between schools and families can positively impact on students' well-being, academic achievement and social and emotional development (Joshi and Konzal, 2005; Epstein, 2013). For gifted readers, practitioners in both countries tried to strengthen parental involvement in their children's literacy development by giving guidance to parents with regard to how to instruct children's reading at home. Donovan (2012) notes that school-family collaboration enables sensitivity in identifying the real needs of gifted students and argues that teachers should mobilise and take full advantage of educational resources available for students. In China and Scotland, resources of reading texts in primary schools were enriched through donation from students' families. Students' extended families (e.g.

grandfather and grandmother) could be invited to the school to read for children and be involved in reading practices. Moreover, the reading experience of gifted readers, as well as other readers, could be further extended and developed through reading materials and instructions provided by parents at home. Especially in China, the practitioners were aware that, as most of the time gifted readers were occupied by a textbook in the class, exploring a wider world of different texts outside of the classroom was of great significance to satisfy their curiosity and learning needs and all these required a full collaboration with, and support from, students' families.

Many researchers have shown the importance of teachers collaborating with other professionals to bring different educational sources into their teaching practices. The other professionals could include librarians, researchers and other teachers (see, Giorgis & Peterson 1996; Hands 2010; Keddie 2016). In addition to students' families, both the Chinese and Scottish practitioners also regarded colleagues as an important source to learn from, communicate and explore with, in relation to how to support children's reading development. The Chinese schools would invite other professionals in reading to hold lectures for parents and teachers. However, there was a lack of support and collaboration from any governmental educational departments. This might relate to the absence of any public policies for gifted education and thus it was not surprising that there were no actions and support from the government. Also, for the primary schools, there was insufficient partnership with upper grades as well as secondary schools and universities to support further development of gifted readers. This is echoed by Dai et al. (2016) who point out that there is an absence of social networks to support gifted education in China. In contrast, in those participant Scottish primary schools, practitioners felt strong support from the governmental support team aimed at children with additional needs. These teachers also indicated that they would seek higher instructions and reading materials for their gifted readers from the upper schools as well as public libraries. It could be seen that the framework for gifted education in Scotland, which is constructed by schools, educational departments, the societies and policies, is somewhat more developed than that in China. The extent that teachers support gifted readers in the classroom responds to how well the framework for gifted education is constructed in a particular society.

8.7 Conclusion

This chapter presents the main findings in China and Scotland. Through comparison of these two countries, it can be seen that, in Scotland, practitioners had relatively more considerations and actions for gifted readers. In Scotland, many teaching practices try to include gifted readers in the classroom teaching. However, there is still a need for improvement, such as bringing in more up-to-date digital texts to enrich gifted readers and increasing teachers' knowledge about gifted education. In China, insufficient support for gifted readers in the primary classroom could not be simplistically ascribed to each individual teacher. Firstly, the absence of legislation and public policies to address gifted children and the country's overall priority on generalising basic education for every child together have impacted on teachers' consideration and action to further develop gifted readers. Furthermore, the centralised educational system, exam-oriented teaching and learning, and a low teacher-pupil ratio means that, in reality, it is almost impossible for Chinese teachers to plan individualised teaching to address the diverse needs of gifted readers. All these issues point to the conclusion that, in order to change education for gifted readers, only increasing teachers' professional knowledge regarding gifted students or strengthening support from the school level would not be sufficient to improve the situation. Change is needed from the top (legislation and policies, educational system) to the bottom (teacher knowledge, school support) as well as from the bottom to the top, accompanied by national economic growth to provide sufficient educational resources for children who need additional and individualised support.

Chapter 9 Conclusion

9.1 Introduction

This thesis is based on qualitative research and has explored teachers' understandings and practices in relation to gifted readers. The research examined education policy and practices in both China and Scotland and drew on the experiences of teachers and managers in schools to understand how this policy is enacted.

The premise of this research is that gifted readers require appropriate and challenging learning opportunities if they are to develop. Teachers are the key players in providing such a learning experience. The main objective of this research was to explore teachers' conceptualisation of, and classroom practices for, gifted readers in primary schools in China and Scotland. As far as the researcher is aware, there is little empirical research that focuses on teaching gifted readers in the mainstream classroom and none that has examined practices in China and Scotland. Thus, through a critical literature review and obtaining original data, this study contributes to the knowledge regarding how teachers conceptualise and teach gifted readers in the specific contexts of China and Scotland.

This research had three main aims

- To understand primary teachers' conceptions of gifted readers in both Chinese and Scottish contexts.
- To examine children's literature used in the primary classroom to support gifted readers in both the Chinese and Scottish contexts.
- To describe and explore how primary teachers address the needs of gifted readers in China and Scotland.

Drawing on summary conclusions from the findings, this chapter addresses these aims. This chapter also discusses possible methodological limitations of the research and its contribution to the field. In addition, recommendations for future research are presented.

9.2 Key Findings

- **First research question: How do primary teachers conceptualise gifted readers in China and Scotland?**

In relation to gifted readers, the findings showed that teachers in both countries similarly perceived that gifted readers were proficient readers who possessed higher reading abilities than the average level. There was no cultural difference at this point. Most of the Chinese and Scottish teachers tended to believe that gifted readers were nurtured by an enriched literacy environment rather than believing that ability arises from a genetic disposition. Views of teachers seemed to align more to Ziegler's conceptualisation of gifted students (only focusing on environment), rather than Gagné's conceptualisation of gifted students (emphasising environment but also inborn ability). Both school and home were regarded as important, with Scottish teachers giving more weight to the school environment and Chinese teachers arguing that the home environment was the most important in relation to development.

- **Second research question: Do primary teachers use children's literature to nurture gifted readers in China and Scotland? If so, what kinds of children's literature do they use?**

As highlighted in chapter 8, my focus on children's literature broadened once I began researching in the field. It was clear that teachers used a range of texts with all learners and that the reading experience was enriched because of this. Teachers in both countries also used a variety of texts to develop gifted readers. However, they did not have a particular focus on using children's literature which could mean they are missing out on important texts that could challenge and inspire gifted readers and indeed all readers. Informational texts formed an important part in teaching children with different reading abilities in Scotland and, although children's literature featured in the classroom, it was seen simply as another genre that could be used. Chinese teachers and literacy coordinators talked about using classic adult Chinese literature with all students, rather than utilising children's literature. These texts address the moral aspects of life. Teachers in China and Scotland claimed that in their mainstream classroom teaching they aimed to maintain a diversification of texts, which included texts from children's literature.

From the data, it was found that Scottish teachers could more easily access a wide range of reading materials, unlike Chinese teachers who were required to devote most of their time to teaching literacy using standard textbooks in the classroom. Although a textbook can provide systematic instructions for learning and teaching, it can also restrict gifted readers, as well as other students, from encountering a wonderful world full of challenging reading texts in the classroom. The use of textbooks also decreased Chinese teachers' autonomy to teach students through using appropriate texts according to the students' interests and abilities.

Although multimodal and digital texts are addressed more in the Scottish literacy curriculum than in China, the findings indicated that in mainstream classroom teaching both Chinese teachers and Scottish teachers rarely used these texts to enrich the gifted readers' reading experience. Insufficient ICT facilities contributed to this situation in both countries. In addition, almost all of the participants considered that they did not have sufficient knowledge regarding digital app books, and thus it was difficult to introduce children to these newly emerging interactive texts. As digital reading often already forms an integral part of children's life, the dearth of digital texts in classroom teaching indicated a potential disparity between children's reading experiences at school and after school and means that schools might be missing out in providing educational resources in supporting the continuous development of gifted individuals (Ziegler *et al.* (2017). There is a need for educators to increase their sensitivity to quickly respond to the change of children's reading habits in the 21st century and provide more reading resources to develop gifted readers.

- **Third research question: How do primary teachers teach gifted readers in China and Scotland?**

Generally, Scottish teachers adopted relatively more strategies than Chinese teachers to accommodate the needs of gifted readers. Strategies used in the Scottish primary schools included differentiation, focusing on higher order thinking skills, independent learning, homogeneous-ability grouping, mixed-ability grouping, and collaboration with parents. However, needs of gifted readers were in danger of being ignored sometimes due to Scottish teachers' restricted time and energy but also due to the teachers' misunderstanding of who

the gifted readers might be in their class. Chinese teachers found that it was difficult to use the strategy of differentiation in their context because there were too many pupils in classrooms, and so this would have required a large amount of time and energy to finish routine work. This implies that low teacher-pupil ratio can negatively influence a teacher's additional provision for gifted learners and perhaps their ability to support learners across the range of ability. Strategies used in a limited way by Chinese teachers included questioning with different depth, assigning extra tasks, informal chatting with gifted readers after class and offering opportunities to answer questions during the lesson. For teachers in both countries, it seemed that acceleration in relation to curriculum was difficult to implement in mainstream classroom teaching due to insufficient time for teachers to plan and develop tasks.

Teachers in both countries regarded consistency of educational beliefs and practices between home and school of great importance for children's talent development. Thus, most of the teachers tended to collaborate closely with families of gifted readers so that their reading experiences could be enriched and extended at home. Home education was emphasised by Chinese teachers as they were aware that classroom teaching, which mostly focused on the textbook, was at risk of not satisfying the learning needs of their gifted readers. It was also found that, while Scottish teachers felt they could obtain sufficient professional support from the local authority for gifted learners, there was a dearth of such support for Chinese teachers. The development of gifted students is influenced by a range of people. Depending on teachers alone to make change is not practical. Sutherland (2011, 2014) highlights the importance of shared understanding and continuous provision among stake holders of gifted education, there is a need to create a network which consists of practitioners, families, librarians, researchers and policy makers to share experiences and resources in order to systematically develop gifted students. In this way, the teacher would not feel isolated and the sole provider for gifted students.

9.3 Research Implications

Relationship between educational resources and gifted education

An emerging similarity between practitioners in public primary schools in China and Scotland was that they were facing the challenge of insufficient educational resources in order to make provision for gifted learners. Almost all of the teachers indicated that there was a lack of time to accommodate all the needs of all pupils. When time and energy was limited, the needs of children with lower ability were most likely to be prioritised and, in contrast, the needs of gifted readers were easily ignored, in the belief that these learners would succeed anyway. This conscious or unconscious choice made by teachers alongside a heavy workload, in essence, was caused by an insufficient number of teachers. This was particularly the case for Chinese teachers. In addition, there was a shortage of ICT facilities and also reading resources for some teachers. The research literature indicates that the environment could enhance or impede talent development (see Gagné, 2010; Ziegler and Phillipson, 2012). This is also demonstrated by the data gathered during this research: a lack of educational resources leads to teachers who are not resourced to create optimum learning experiences, and then it leads to delimitation of the development of gifted learners.

Relationship between degree of centralisation of education system and gifted education

This research highlights that, the more an education system is centralised, the less autonomy teachers feel they have in sensitively responding to students in different contexts. This finding aligns with Pearson and Moomaw (2005) noting that teachers are not empowered to teach when they have less curriculum autonomy and work in a highly centralised education system. In this research, less teacher autonomy resulted in less additional support being provided to gifted students through mainstream classroom teaching.

The questionnaire and interview data indicated that Scottish teachers were able to source from a wide range of texts and had freedom and autonomy to decide texts for use with their students. In contrast, with centralised textbooks and examinations, Chinese teachers appeared to have less flexibility and were less likely to give special consideration to further enrich the reading experiences of gifted readers. Although Chinese teachers showed awareness that the content in textbooks might not match students' different ability levels, they felt they could not use additional texts because time was devoted to fulfilling prescribed teaching tasks.

In this research, tension was identified between the exam-oriented learning and teaching and gifted education in China. Firstly, when occasionally a wider range of texts that were outside of the standard curriculum were used, these needed to give way when the time for reading and learning conflicted with the exam content prescribed within textbooks. More up-to-date reading materials that could respond to children's real life and changing reading habits could not be used by Chinese teachers in mainstream classroom teaching due to the priority that was given to achieving high scores in exams. Teaching strategies that are particularly effective for gifted students, such as differentiation, creative reading and independent learning, were rarely used by Chinese teachers partly because whole-class and teacher-centred teaching was still regarded as the most effective way to help students to adapt to the exam-oriented system.

Socio-cultural influence

Although the ideological difference between the countries was known, an unexpected finding that emerged was the influence that the difference in the purpose of education had on learning. Some researchers (e.g. De Boer *et al.*, 2013) argue that economic development and competitiveness of a country is dependent on the development of the gifted and talented. This position raises many questions about not only how the gifted are educated but also how learning is organised for all in a particular socio-cultural context. To support all learners, a country needs sufficient investment in education and debates on how to achieve their goals in order to provide opportunity for all and not just for some (Fu, 2017). This is particularly true in China where education has been about the education of the majority (Yang and Wang, 2009). The strategies adopted in the classroom and the challenges faced by teachers were, in many ways, similar and also different. In the Scottish context, both the legislation and the teachers demonstrated a commitment to providing appropriate learning experiences for all. This meant that the pedagogical approaches adopted in practice sought to challenge each learner and they had an appreciation that gifted pupils required appropriate learning opportunities. This view and purpose for education had its roots in the inclusive approach adopted within the legislation. Notwithstanding, teachers in Scotland were concerned about those who struggled, and they highlighted concerns around availability of resources and time to ensure they were challenging all. In China, teachers were keen to ensure that all pupils received a basic education. This meant that they saw the home as one of the main places where gifted readers would find challenge because the classroom was about ensuring children received basic skills and therefore those who could already read were less of a

priority. This raises issues relating to social capital (Zeigler, 2017) and equity of opportunity outside of school. Interestingly, Chinese teachers had ideas of how they could challenge gifted readers but the different purpose of education along with an inflexible curriculum meant that they could not implement these ideas.

The focus for this thesis was gifted readers and how they are supported in the classroom in two very different countries. The issues relating to this group of learners are universal even although they are caught up in the socio-cultural ideological underpinnings of their respective countries. While the political and economic debate will continue, this thesis sought to examine and explore the issues at classroom level. The stance that teachers take towards learners and to how they organise and plan for learning lie at the heart of the enactment of policies.

9.4 Research Limitations

The research was conducted using a small sample of teachers from schools in one local authority in Scotland and one province in China. The size of the sample might have constrained the richness of the results. Participants were limited to teachers and literacy coordinators, which included head teachers, deputy head teachers and principal teachers in the primary school, since the focus for the research was teacher perceptions about giftedness and how these impacted on practice. By not involving the students, the research has potentially missed out an important voice that could shed further light on the teaching approaches that support and develop gifted readers. Although the researcher attempted to find a balance between each gender in the participants, only one male teacher in each country attended the research interviews. Thus, bias due to unbalanced genders might exist. This imbalance may reflect the large number of female teachers involved in primary education in both countries.

The methods for data gathering were questionnaires and interviews, both of which relied on practitioners to offer their constructed perspectives. However, there might be differences between their views of classroom practices for gifted readers and the actual situation. In the

future, classroom observation can be used as it should help the researcher to obtain first-hand information (Sarantakos, 2013). Furthermore, some respondents failed to answer the open-ended questions within the questionnaire. Although statistical strategies were adopted to deal with this issue, it could still dilute the results. In addition, the original design for the interview was to involve one teacher at the same time. However, in actual practice some participants required to be interviewed with another colleague. As discussed in Chapter 4, participants might feel uncomfortable presenting opposing viewpoints and thus the interview data might only present partially the participants' real views or their views might have been influenced by each other. Finally, field work was undertaken between 2016 and 2017, thus it more offered a snapshot for school gifted provision at the time the researcher undertook field work in those primary schools. While this is potentially a limitation, it offers a starting point for building future work.

9.5 Recommendations for Future Research

This research sought to contribute to the work of VanTassel-Baska (1998) and (Reis et al. 2004; 2008) who have explored the characteristics of gifted readers and the approaches that support them, and more recently that of (Bannister-Tyrrell, 2017) who considered knowledge and awareness of gifted learners among teacher educators. Several opportunities for further research exists and four recommendations for future research are proposed.

Firstly, while this research focused on teaching, giftedness, gifted readers, and reading in China and Scotland, the research was not a comparison of practice *per se* but sought to identify and analyse teacher perceptions in two culturally different settings. The synthesis of these issues within the contexts of China and Scotland revealed that teachers' understanding and practices for gifted readers were embedded in their specific sociocultural contexts although they experienced similar issues. Future research could be conducted using comparative research methodologies in order to contribute to educational development and reform in ways that take account of different cultures, systems and structures.

Secondly, the teachers' responses in both countries raised the researcher's awareness of the value of a broad range of texts. While interviewing teachers and analysing data, the teachers' responses led the researcher to reflect on her own knowledge and experience and broadened her vision into exploring the world of informational texts and the importance of other kinds of texts in a child's development. More importantly, the researcher also started to re-consider a wider concept of literacy and how to use a correspondingly wider range of reading texts to develop broader literacy abilities of children in order to prepare their future in this dramatically changing and developing era. It is critical to consider how this wider concept of literacy and all those new emerging texts inform teachers' teaching of gifted readers. Therefore, future research can explore in depth how teachers use various materials, including children's literature, classic literature, informational texts and digital texts, that are suitable for gifted readers and also widely read by children in their daily life.

Thirdly, in this research, questionnaires and interviews were used to achieve an in-depth and diversified understanding of teachers' practices for gifted readers. As part of this, they were asked to share their understanding of giftedness. How ability is understood and perceived by teachers is important as it affects what they do in the classroom (Rouse, 2006). The research can be widened to include a range of subjects such as writing, second languages, music, science or mathematics. This would present opportunities to see if the findings of this research apply to other curricular areas and if teachers' understanding of ability across subjects varies. Research could also be conducted with initial teachers to understand how teachers' views are formed and informed.

Finally, future research could include student voices. This research focused on teachers and literacy coordinators' own reflections of the strategies for gifted readers. Inclusion of student voices alongside classroom observation could bring to light a more complete picture of the learning and teaching experiences of gifted learners.

9.6 Suggestion for Teachers

For an individual teacher in current situation in China and Scotland, there are some practical ways when teachers feel that there is limited time to provide differentiated or accelerated teaching. Firstly, teachers could teach ways of searching online resources. This could lead and motivate gifted readers to independently exploring a wonderful world of digital reading. Even academic data base or websites could be suggested by teachers as these are reading resources of very good quality and challenge. Children's learner autonomy, inner interests and motivation can be fostered when more independent learning opportunities are encouraged (Wood, 2008; Westberg and Leppien, 2018). Online reading forums could be introduced by teachers to gifted readers to share their views and connect to a community where readers can be of different ages and abilities but have the same reading interests. This could create a reading environment for gifted readers to further develop. Secondly, much wider range of books (in terms of linguistic difficulties, genres and topics) could be provided in the classroom to create a differentiated and enriched reading environment. Thirdly, there are some underachieving gifted learners, so teachers need to continuously be on the lookout for, assess and make appropriate provision for them. Fourth, schools can instruct families and collaborate with them closely regarding their gifted children. With knowledge of gifted education, families can better support their potentially gifted children in terms of identification, provision and assessment.

Reading in all its forms opens the mind to a world of interest, intrigue and knowledge. It is little wonder that literacy is a key goal within the Sustainable Development Goals (UNESCO, 2017). By focusing on provision for gifted readers, this research has highlighted the importance of providing challenging materials and the opportunities for all learners. Underpinning this is the need for high quality teachers who can implement policies and strategies to support all.

List of Reference

Adodo, S. O. and Agbayewa, J. O. (2011) 'Effect of Homogenous and Heterogeneous Ability Grouping Class Teaching on Student's Interest, Attitude and Achievement in Integrated Science', *International Journal of Psychology and Counselling*, 3(3), pp. 48–54.

Al-Hamdan, N. S., Al-Jasim, F. A. and Abdulla, A. M. (2017) 'Assessing the Emotional Intelligence of Gifted and Talented Adolescent Students in the Kingdom of Bahrain', *Roeper Review*, 39(2), pp. 132–142.

Aliagas, C. and Margallo, A. M. (2017) 'Children's Responses to the Interactivity of Storybook Apps in Family Shared Reading Events Involving the iPad', *Literacy*, 51(1), pp. 44–52.

Allan, J. (2013) 'Inclusion for All?', in Bryce, T. G. K. W., Humes, W. M., Gillies, D., and Kennedy, J. (eds) *Scottish Education*. 4th edn. Edinburgh: Edinburgh University Press.

Altintas, E. and Özdemir, A. S. (2015) 'The Effect of Differentiation Approach Developed on Creativity of Gifted Students: Cognitive and Affective Factors', *Educational Research and Reviews*, 10(8), pp. 1191–1201.

Anmarkrud, Ø. and Bråten, I. (2009) 'Motivation for Reading Comprehension', *Learning and Individual Differences*, 19(2), pp. 252–256.

Apperley, T. and Walsh, C. (2012) 'What Digital Games and Literacy Have in Common: A Heuristic for Understanding Pupils' Gaming Literacy', *Literacy*, 46(3), pp. 12–24.

Arens, A. K. and Watermann, R. (2015) 'How an Early Transition to High-ability Secondary Schools Affects Students' Academic Self-concept: Contrast Effects, Assimilation Affects, and Differential Stability', *Learning and Individual Differences*, 37, pp. 64–71.

Austin, P. (2003) 'Challenging Gifted Readers', *Book Links*, 12(5), pp. 32–45.

Baer, J. and Kaufman, J. C. (2004) 'Considering the DMGT: Something Old, Something New', *High Ability Studies*, 15(2), pp. 149–150.

Bannister-Tyrrell, M. (2017) 'Young Talented Readers: The Interaction and Engagement of Metacognition During Critical Literacy Discourse', in N., B. and R., M. (eds) *Giftedness and Talent*. Singapore: Springer, pp. 33–54.

Baroody, A. E. and Diamond, K. E. (2016) 'Associations among Preschool Children's Classroom Literacy Environment, Interest and Engagement in Literacy Activities, and Early Reading Skills', *Journal of Early Childhood Research*, 14(2), pp. 146–162.

Barrett, L., Beaton, M., Head, G., McAuliffe, L., Moscardini, L., Spratt, J. and Sutherland, M. (2015) 'Developing Inclusive Practice in Scotland: the National Framework for Inclusion', *Pastoral Care in Education*, 33(3), pp. 180–187.

Bartošová, I. K., Plovajková, A. and Podnecká, T. (2015) 'Development of Reading Literacy Based on the Work of Textbooks (Workbooks)', *Procedia-Social and Behavioral Sciences*, 171, pp. 668–679.

Batterham, I. (2000) *The Chance to Change: The Final Report by the Chief Scientist*. Canberra: Commonwealth Government Printer.

Baumann, J. F. and Heubach, K. M. (1996) 'Do Basal Readers Deskill Teachers? A National Survey of Educators' Use and Opinions of Basals', *The Elementary School Journal*, 96(5), pp. 511–526.

Bearne, E. (1998) 'Introduction', in Bearne, E. (ed.) *Use of Language across the Primary Curriculum*. London: Routledge, pp. 1–8.

Bergen, E., Zuijen, T., Bishop, D. and Jong, P. F. (2017) 'Why Are Home Literacy Environment and Children's Reading Skills Associated? What Parental Skills Reveal', *Reading Research Quarterly*, 52(2), pp. 147–160.

Birch, M. and Miller, T. (2012) 'Encouraging Participation: Ethics and Responsibilities', in Miller, T., Birch, M., Mauthner, M., and Jessop, J. (eds) *Ethics in Qualitative Research*. 2nd edn. Croydon: SAGE Publications.

Bisland, A. (2001) 'Mentoring: an Educational Alternative for Gifted Students', *Gifted Child Today*, 24(4), pp. 22–24.

Blatchford, P., Pellegrini, A. D. and Baines, E. (2016) *The Child at School: Interactions with Peers and Teachers*. 2nd edn. New York: Routledge.

Blatchford, P., Russell, A., Bassett, P., Brown, P. and Martin, C. (2007) 'The Effect of Class Size on the Teaching of Pupils Aged 7 – 11 Years', *School Effectiveness and School Improvement*, 18(2), pp. 147 – 172. Available at: http://dx.doi.org/10.1080/09243450601058675.

Bloom, B. S., Englehard, M. D., Furst, E. J., Hill, W. H. and Krathwohl, D. R. (1956) *Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook I Cognitive Domain*. New York: David McKay.

Boakye, N. and Southey, L. (2011) 'The Influence of Socio-affective Factors on Students' Reading Ability', *Hermeneia*, (11), pp. 38–53.

Boaler, J., Wiliam, D. and Brown, M. (2000) 'Students' Experiences of Ability Grouping - Disaffection, Polarisation and the Construction of Failure', *British Educational Research Journal*, 26(5), pp. 631–648.

Boddy, C. R. (2016) 'Sample Size for Qualitative Research', *Qualitative Market Research: An International Journal*, 19(4), pp. 426–432.

De Boer, G. C., Minnaert, A. E. and Kamphof, G. (2013) 'Gifted Education in the Netherlands', *Journal for the Education of the Gifted*, 36(1), pp. 133–150.

Bolhuis, S. and Voeten, M. J. M. (2001) 'Toward Self-directed Learning in Secondary Schools: What Do Teachers Do?', *Teaching and Teacher Education*, 17(2), pp. 837–855.

Bonds, C. W. and Bonds, L. T. (1983) 'Teacher, is There a Gifted Reader in First Grade?', *Roeper Review*, 5(3), pp. 4–6.

Boothby, P. R. (1980) 'Creative and Critical Reading for the Gifted', *The Reading Teacher*, 33(6), pp. 674–676.

Borland, J. H. (2003) 'The Death of Giftedness: Gifted Education Without Gifted Children', in Borland, J. H. (ed.) *Rethinking Gifted Education*. New York: Teachers College Press.

Brighton, C. M., Moon, T. R. and Huang, F. H. (2015) 'Advanced Readers in Reading First Classrooms: Who was Really "Left Behind"? Considerations for the Field of Gifted Education.', *Journal for the Education of the Gifted*, 38(3), pp. 257–293.

Brislin, R. W. (1970) 'Back-translation for Cross-cultural Research', *Journal of Cross-Cultural Psychology*, 1(3), pp. 185–216.

British Educational Research Association (BERA) (2011) *Ethical Guidelines for Educational Research*. Available at: https://www.bera.ac.uk/researchers-resources/publications/ethical-guidelines-for-educational-research-2011 (Accessed: 20 November 2017).

Bronfenbrenner, U. (1994) 'Ecological Models of Human Development', in Husen, T. and Postlethwaite, T. N. (eds) *International Encyclopedia of Education*. 2nd edn. Oxford, England: Pergamon Press/Elsevier Science, p. Vol. 3, 1643-1647.

Brown, E. F. and Wishney, L. R. (2017) 'Equity and Excellence: Political Forces in the Education of Gifted Students In The United States and Abroad', *Global Education Review*, 4(1), pp. 22–33.

Brown, J. and Morris, D. (2005) 'Meeting the Needs of Low Spellers in a Second-grade Classroom', *Reading & Writing Quarterly*, 21(2), pp. 165–184.

Brulles, D., Saunders, R. and Cohn, S. J. (2010) 'Improving Performance for Gifted Students in a Cluster Grouping Model', *Journal for the Education of the Gifted*, 34(2), pp. 327–352.

Bubb, S. and Earley, P. (2009) 'What do We Know about School Workforce Development: a Summary of Findings from Recent TDA-Funded Research Projects'. Available at: https://core.ac.uk/download/pdf/83048.pdf.

Buckingham, J. (2003) 'Class Size and Teacher Quality', *Educational Research for Policy and Practice*, 2(1), pp. 71–86.

Bureau of Education of Guangzhou Municipality (2016) *Educational Statistics Information Manual of Guangzhou*. Available at: http://www.gzedu.gov.cn/gov/GZ04/201605/t20160510_32950.html.

Camic, P. M., Rhodes, J. E. and Yardley, L. (2003) 'Naming the Stars: Integrating Qualitative Methods into Psychological Research', in Camic, P. M., Rhodes, J. E., and Yardley, L. (eds) *Qualitative Research in Psychology: Expanding Perspectives in Methodology and Design*. Washington, DC: American Psychological Association, pp. 3–15.

Card, D. and Giuliano, L. (2016) 'Universal Screening Increases the Representation of Low-income and Minority Students in Gifted Education', *Proceedings of the National Academy of Sciences*, 113(48), pp. 13678–13683.

Catron, R. M. and Wingenbach, N. (1986) 'Developing the Potential of the Gifted Reader', *Theory into Practice*, 25(2), pp. 134–140. Available at: http://www.tandfonline.com/doi/pdf/10.1080/00405848609543213 (Accessed: 16 March 2015).

Chambliss, M. and Calfee, R. (1998) *Textbooks for Learning: Nurturing Children's Minds*. Malden, MA: Blackwell Publishing.

Chan, J. (2007) ‘Giftedness and China’s Confucian Heritage’, in Phillipson, S. N. and McCann, M. (eds) *Conceptions of Giftedness: Sociocultural Perspectives*. Mahwah, NJ: Lawrence Erlbaum Associates, pp. 35–64.

Chan, W. D. (2008) ‘Lay Conceptions of Giftedness Among the Chinese People’, in Balchin, T., Hymer, B., and Matthews, D. J. (eds) *The Routledge International Companion to Gifted Education*. Abingdon, Oxon: Routledge. Available at: https://www.routledgehandbooks.com/doi/10.4324/9780203609385.ch15.

Chen, J. (2015) ‘Teachers’ Conceptions of Approaches to Teaching: A Chinese Perspective’, *The Asia-Pacific Education Researcher*, 24(2), pp. 341–351.

Chen, J. and Day, C. (2014) ‘Tensions and Dilemmas for Chinese Teachers in Responding to System Wide Change: New Ideas, Old Models’, in Gu, Q. (ed.) *The Work and Lives of Teachers in China*. London, UK: Routledge, pp. 1–21.

Chen, Y.-L. and Gau, S. S.-F. (2016) ‘Sleep Problems and Internet Addiction among Children and Adolescents: a Longitudinal Study’, *Journal of Sleep Research*, 25(4), pp. 458–465.

Chin, A. P. (1988) *Children from China: Voices from Recent Years*. New York: Cornell University Press.

Chiu, M. M., Chow, B. W. Y. and Joh, S. W. (2017) ‘Streaming, Tracking and Reading Achievement: A Multilevel Analysis of Students in 40 Countries’, *Journal of Educational Psychology*, 109(7), pp. 915–934.

Chu, H. (2012) ‘Striving for Excellence: Gifted Education and National Development—— To Break Through the Misunderstanding and Obstacle of Policy of Gifted Education in China’, *Educational Research*, 11(394), pp. 3–10.

Cockroft, C. and Atkinson, C. (2017) ‘“I Just Find it Boring”: Findings from an Affective Adolescent Reading Intervention’, *Support for Learning*, 32(1), pp. 41–59.

Cohen, L., Manion, L. and Morrison, K. (2011) *Research Methods in Education*. 7th edn. Abingdon: Routledge.

Colangelo, N., Assouline, S. G. and Gross, M. U. M. (eds) (2004) *A Nation Deceived: How Schools Hold Back America’s Brightest Students Volume ll*. Iowa City: University of Iowa. Available at: http://www.accelerationinstitute.org/Nation_Deceived/Get_Report.aspx.

Colangelo, N., Assouline, S. G., Marron, M. A., Castellano, J.A., Clinkenbeard, P.R., Rogers, K., Calvert, E., Malek, R. and Smith, D. (2010) ‘Guidelines for Developing an Academic Acceleration Policy’, *Journal of Advanced Academics*, 21(2), pp. 180–203.

Coleman, L. J. and Cross, T. L. (2005) *Being Gifted in School: an Introduction to Development, Guidance, and Teaching*. 2nd edn. Waco, TX: Prufrock Press Inc.

Coleman, M. R., Gallagher, J. J. and Job, J. (2012) ‘Developing and Sustaining Professionalism within Gifted Education’, *Gifted Child Today*, 35(1), pp. 27–36.

Comber, B. (2015) ‘Critical Literacy and Social Justice’, *Journal of Adolescent & Adult Literacy*, 58(5), pp. 362–367.

Connor, C. M., Morrison, F. J., Schatschneider, C., Toste, J. R., Lundblom, E., Crowe, E. C. and Fishman, B. (2011) ‘Effective Classroom Instruction: Implications of Child

Characteristics by Reading Instruction Interactions on First Graders' Word Reading Achievement.', *Journal of Research on Educational Effectiveness*, 4(3), pp. 173–207.

De Corte, E. (2013) 'Giftedness Considered from the Perspective of Research on Learning and Instruction', *High Ability Studies*, 24(1), pp. 3–19.

Council for the Curriculum Examinations and Assessment (2006) *Gifted and Talented Children in (and out) of the Classroom: A report for the Council of Curriculum, Examinations and Assessment (CCEA)*. Available at: http://www.nicurriculum.org.uk/docs/inclusion_and_sen/gifted/gifted_children_060306.pdf.

CPG (2006) *Education Law of the People's Republic of China*. Available at: http://www.gov.cn/flfg/2006-06/30/content_323302.htm (Accessed: 21 March 2018).

CPG (2010) *Outline of China's National Plan for Medium and Long-term Education Reform and Development 2010-2020*. Available at: http://www.gov.cn/jrzg/2010-07/29/content_1667143.htm (Accessed: 12 March 2018).

CPG (2013) *The Status of Educational Development in China*. Available at: http://www.gov.cn/test/2005-09/07/content_29930.htm (Accessed: 12 March 2018).

Cremin, T. (2014) 'Reading for Pleasure and Reader Engagement: Reviewing the Research', in Cremin, T., Mottram, M., Collins, F. M., Powell, S., and Safford, K. (eds) *Building Communities of Engaged Readers: Reading for Pleasure*. Abingdon, Oxon: Routledge.

Creswell, J. W. (2014) *Research Design: Qualitative, Quantitative & Mixed Methods Approaches*. 4th edn. Thousands Oaks, CA: SAGE Publications, Inc.

Cross, T. L. and Coleman, L. J. (2014) 'School-Based Conception of Giftedness', *Journal for the Education of the Gifted*, 37(1), pp. 94–103.

Csikszentmihalyi, M., Rathunde, K. and Whalen, S. (1993) *Talented Teenagers: The Roots of Success and Failure*. New York: Cambridge University Press.

Csikszentmihalyi, M. and Robinson, R. E. (2015) 'Culture, Time, and the Development of Talent', in *The Systems Model of Creativity*, pp. 27–46.

Dai, D. Y. (2004) 'Why the Transformation Metaphor doesn't Work Well: a Comment on Gagné's DMGT Model', *High Ability Studies*, 15(2), pp. 159–161.

Dai, D. Y. (2017) 'Envisioning a New Foundation for Gifted Education: Evolving Complexity Theory (ECT) of Talent Development', *Gifted Child Quarterly*, 61(3), pp. 172–182.

Dai, D. Y. and Kuo, C. C. (2016) 'State of Gifted Education in Asia: the Need for a Critical Assessment', in Dai, D. Y. and Kuo, C. C. (eds) *Gifted Education in Asia: Problems and Prospects*. Charlotte, NC: Information Age Publishing Inc.

Dai, D. Y., Steenbergen-hu, S. and Yang, Y. (2016) 'Gifted Education in Mainland China: How it Serves a National Interest and Where it Falls Short', in Dai, D. Y. and Kuo, C. C. (eds) *Gifted Education in Asia: Problems and Prospects*. Charlotte, NC: Information Age Publishing Inc., pp. 51–76.

Dare, L. and Nowicki, E. (2018) 'Strategies for Inclusion: Learning from Students' Perspectives on Acceleration in Inclusive Education', *Teaching and Teacher Education*, 69, pp. 243–252. Available at: https://doi.org/10.1016/j.tate.2017.10.017.

Dello-Iacovo, B. (2009) 'Curriculum reform and "Quality Education" in China: An overview', *International Journal of Educational Development*, 29, pp. 241–249.

DeMarrais, K. (2004) 'Qualitative Interview Studies: Learning through Experience', in DeMarrais, K. and Lapan, S. D. (eds) *Foundations for Research*. Mahwah, NJ: Erlbaum, pp. 51–68.

Department of Education Services (1978) *Special Educational Needs: Report of the Committee of Enquiry into the Education of Handicapped Children and Young PeopleThe (Warnock Report)*. London: Her Majesty's Stationery Office.

Deur, P. Van (2011) 'Views of Gifted Elementary Students about Self-Directed Learning', *Gifted and Talented International*, 26(1–2), pp. 111–120.

Dewitz, P. and Jones, J. (2013) 'Using Basal Readers: From Dutiful Fidelity to Intelligent Decision Making', *The Reading Teacher*, 66(5), pp. 391–400.

Dimitriadis, C. (2011) 'Developing Mathematical Ability in Primary School through a "Pull-out" Programme: a Case Study', *Education 3-13*, 39(5), pp. 467–482.

Dixon, F. A., Yssel, N., McConnell, J. M. and Hardin, T. (2014) 'Differentiated Instruction, Professional Development, and Teacher Efficacy', *Journal for the Education of the Gifted*, 37(2), pp. 111–127.

Dole, J. A. and Adams, P. J. (1983) 'Reading Curriculum for Gifted Readers: A Survey', *Gifted Child Quarterly*, 27(2), pp. 64–72. Available at: http://psycnet.apa.org/psycinfo/1984-27235-001 (Accessed: 18 March 2015).

Donaldson, G. (2014) 'Teacher Education and Curriculum Change in Scotland', *European Journal of Education*, 49(2), pp. 178–191.

Donovan, A. (2012) 'Bridging Family and School: a School Psychologist Perspective', *Counseling and Human Development*, 44(7), pp. 1–8.

Dooley, C. (1993) 'The Challenge: Meeting the Needs of Gifted Readers', *The Reading Teacher*, 46(7), pp. 546–551.

Duan, X. (2012) 'Heritability: an Underestimated Effect in the Actiotope Model', *High Ability Studies*, 23(1), pp. 51–52.

Duranti, A. (2007) 'Transcripts, Like Shadows on a Wall', *Mind, Culture and Activity*, 13(4), pp. 301–310.

Durkin, D. (1966) *Children who Read Early*. New York: Teachers College Press.

Durkin, D. (1981) 'Reading Comprehension Instruction in Five Basal Reader Series', *Reading Research Quarterly*, 16(4), pp. 515–544.

Dweck, C. S. (2016) *Mindset: the New Psychology of Success*. 2nd edn. New York: Penguin Random House LLC.

Educatio Scotland (2006) *Building the Curriculum*.

Education Scotland (2015) *About the Scottish Attainment Challenge*. Available at: https://education.gov.scot/what-we-do/delivering-the-scottish-attainment-challenge/About the Scottish Attainment Challenge (Accessed: 9 May 2018).

Education Scotland (2016) *Implementing the National Improvement Framework*. Available at: https://education.gov.scot/what-we-do/Implementing the National Improvement Framework (Accessed: 9 May 2018).

Education Scotland (no date a) *Building the Curriculum*.

Education Scotland (no date b) *Curriculum for Excellence: Literacy: Experiences and Outcomes*.

Education Scotland (no date c) *Literacy and English: Principles and Practice*. Available at: https://education.gov.scot/Documents/literacy-english-pp.pdf.

Education Scotland (no date d) *What is Curriculum for Excellence?* Available at: https://education.gov.scot/scottish-education-system/policy-for-scottish-education/policy-drivers/cfe-(building-from-the-statement-appendix-incl-btc1-5)/What is Curriculum for Excellence? (Accessed: 11 May 2018).

Eisenstein, E. L. (2011) *Divine Art, Infernal Machine: The Reception of Printing in the West from First Impressions to the Sense of an Ending*. Philadelphia: University of Pennsylvania Press.

Epstein, J. L. (2013) 'Ready or Not? Preparing Future Educators for School, Family, and Community Partnerships', *Teaching Education*, 24(2), pp. 115–118.

Epstein, J. L. and Sanders, M. G. (2006) 'Prospects for Change: Preparing Educators for School, Family, and Community Partnerships', *Peabody Journal of Education*, 81(2), pp. 81–120.

Epstein, J., Santo, R. M. and Guillemin, F. (2015) 'A Review of Guidelines for Cross-cultural Adaptation of Questionnaires could not Bring out a Consensus', *Journal of Clinical Epidemiology*, 435–441(68), p. 4.

Fairbrother, G. P. (2014) 'Quantitative and Qualitative Approaches to Comparative Education', in Bray, M., Adamson, B., and Mason, M. (eds) *Comparative Education Research: Approaches and Methods*. 2nd edn. Hong Kong: Springer, pp. 71–93.

Fan, M., Wu, F. and Wang, Y. (2016) 'E-reading: Influence of E-books on Reading Ability of Students in Primary School', *E-Education Research*, (12), pp. 106–128.

Fehrenbach, C. R. (1991) 'Gifted/Average Readers: do they Use the Same Reading Strategies?', *Gifted Child Quarterly*, 35(3), pp. 125–127. Available at: http://gcq.sagepub.com/content/35/3/125.short (Accessed: 18 March 2015).

Fehrenbach, C. R. (1994) 'Cognitive Style of Gifted and Average Readers', *Roeper Review*, 16(4), pp. 290–292.

Feldhusen, J. F. (2004) 'Transforming Gifts into Talents: the DMGT Theoretical Model – a Response', *High Ability Studies*, 15(2), pp. 151–152.

Firmender, J. M., Reis, S. M. and Sweeny, S. M. (2013) 'Reading Comprehension and Fluency Levels Ranges Across Diverse Classrooms: The Need for Differentiated Reading Instruction and Content', *Gifted Child Quarterly*, 57(1), pp. 3–14.

Flick, U. (1998) *An Introduction to Qualitative Research*. London: SAGE Publications.

Flick, U. (2007) *Designing Qualitativ Research*. London: SAGE Publications.

Flick, U. (2014) 'Mapping the Field', in Flick, U. (ed.) *The Sage Handbook of Qualitative Data Analysis*. Dorchester: The Dorset Press, pp. 3–18.

Ford, J. B. (1969) *Social Class and the Comprehensive School*. 1st edn. London: Routledge & Kegan Paul.

Fraenkel, R. and Wallen, N. (2000) *How to Design and Evaluate Research in Education*. 4th edn. Boston, MA: McGraw-Hill.

De Fraine, B., van Damme, J., van Landeghem, V., Opdenakker, M. and Onghena, P. (2003) 'The Effects of Schools and Classes on Language Achievement', *British Educational Research Journal*, 29(6), pp. 841–859.

Freeman, J. (1998) *Educating the Very Able: Current International Research*. London: The Stationery Office.

Freire, P. (1972) *Pedagogy of the Oppressed*. New York: Seabury.

Freire, P. (1983) 'The Importance of the Act of Reading', *Journal of Education*, 165(1), pp. 5–11.

French, L. R., Walker, C. L. and Shore, B. M. (2011) 'Do Gifted Students Really Prefer to Work Alone?', *Roeper Review*, 33(3), pp. 145–159. doi: 10.1080/02783193.2011.580497.

Fu, T. (2017) 'Wandering in the Shadow of Egalitarianism and Equity: A Social and Cultural Explanation to the Underdeveloped Gifted Education in China', *Global Education Review*, 4(1), pp. 34–44.

Furnham, A. (2016) 'The Relationship between Cognitive Ability, Emotional Intelligence and Creativity', *Psychology*, 7(2), pp. 193–197.

Gagné, F. (1985) 'Giftedness and Talent: Reexamining a Reexamination of the Definitions', *Gifted Child Quarterly*, 29(3), pp. 103–112.

Gagné, F. (1995) 'From giftedness to talent: A developmental model and its impact on the language of the field', *Roeper review*, 18(2), pp. 103–111.

Gagné, F. (2004) 'Transforming Gifts into Talents: the DMGT as a Developmental Theory', *High Ability Studies*, 15(2), pp. 119–147.

Gagné, F. (2009) 'Building Gifts into Talents: Detailed Overview of the DMGT 2.0', in B. MacFarlane and Stambaugh, T. (eds) *Leading Change in Gifted Education: The Festschrift of Dr. Joyce VanTassel-Baska*. Waco, TX: Prufrock Press, pp. 61–80.

Gagné, F. (2010) 'Motivation within the DMGT 2.0 Framework', *High Ability Studies*, 21(2), pp. 81–99.

Gagné, F. (2012) 'Comments on the Actiotope Model', *High Ability Studies*, 23(1), pp. 53–55.

Gagné, F. (2013) 'The DMGT: Changes Within, Beneath, and Beyond', *Talent Development & Excellence*, 5(1), pp. 5–19.

Gainer, J. (2013) '21st-Century Mentor Texts: Developing Critical Literacies in the Information Age', *Journal of Adolescent & Adult Literacy*, 57(1), pp. 16–19.

Gall, M. D., Gall, J. P. and Borg, W. R. (2007) *Educational Research: An Introduction*. Boston: Pearson International.

Galton, F. (1869) *Hereditary Genius: An Inquiry into its Laws and Consequences*. London: Macmillan.

Gamble, N. (2013) *Exploring Children's Literature: Reading with Pleasure and Purpose*. 3rd edn. London: SAGE Publications.

Gao, L. (2002) 'Suggestions for the Evaluation System of Textbooks', *Global Education*, 31(4), pp. 46–50.

Gardner, H. (1983) *Frames of Mind: The Theory of Multiple Intelligences, Basic books*. New York.

Gardner, H. (1998) 'A Multiplicity of Intelligences', *Scientific American*, 9(4), pp. 19–23.

Gardner, H. (1999) *Intelligence Reframed: Multiple Intelligences for the 21st Century*. New York: Perseus.

Gardner, H. (2006) *Multiple Intelligences: New Horizons in Theory and Practices*. New York & London: Basic Books.

Garland, D. (1997) 'Governmentality and the Problem of Crime: Foucault, Criminology, Sociology', *Theoretical Criminology*, 1(2), pp. 173–214.

Garrett, L., Rubie-Davies, C., Alansari, M., Peterson, F., Flint, A., Watson, P. and McDonald, L. (2015) '"Missing out"? The Potential Consequences of Inaccurate Teacher Expectations on Young Gifted Readers' Achievement Outcomes', *The New Zealand Journal of Gifted Education*, 19(1). Available at: https://www.researchgate.net/profile/Lynda_Garrett/publication/281111106_'Missing_out'_The_potential_consequences_of_inaccurate_teacher_expectations_on_young_gifted_readers'_achievement_outcomes/links/5601c5d508aeb30ba735561d.pdf.

Gentry, M. (2014) *Total School Cluster Grouping and Differentiation: A Comprehensive, Research-based Plan for Raising Student Achievement and Improving Teacher Practice*. 2nd edn. Waco, TX: Prufrock Press Inc.

Gibton, D. and Ellen, G. (2001) 'The Role of Legislation in Educational Decentralization: The Case of Israel and Britain', *Peabody Journal of Education*, 76(3/4), pp. 81–101.

Gillies, D. (2013) 'The History of Scottish Education, 1980 to the Present Day', in Bryce, T. G. K., Humes, W. M., Gillies, D., and Kennedy, J. (eds) *Scottish Education*. 4th edn. Edinburgh: Edinburgh University Press.

Giorgis, C. and Peterson, B. (1996) 'Teachers and Librarians Collaborate to Create a Community of Learners', *Language Arts*, 73(7), pp. 477–482.

Gleeson, L. (2014) *Writing Like a Writer*. Marrickville Metro: Primary English Teaching Association Australia.

Gómez, M. V. and Kuronen, M. (2011) 'Comparing Local Strategies and Practices: Recollections from Two Qualitative Cross-national Research Projects', *Qualitative Research*, 11(6), pp. 683–697.

Grassinger, R., Porath, M. and Ziegler, A. (2010) 'Mentoring the Gifted: a Conceptual Analysis', *High Ability Studies*, 21(1), pp. 27–46.

Green, A., Preston, J. and Janmaat, J. (2006) *Education, Equality and Social Cohesion: a Comparative Analysis*. London: Palgrave Macmillan.

Greenlaw, M. J. (1990) 'The Basal's New Clothes', *Learning*, 18(8), pp. 33–36.

Griffin, A. (1969) 'Selective and Non-selective Secondary Schools: Their Relative Effects on Ability, Attainment and Attitudes', *Research in Education*, 0(1), pp. 9–20.

Gronostaj, A., Vock, M. and Pant, H. A. (2016) 'Skip a Grade, Learn More? Estimating the Effects of Grade Skipping on Students' Language Skills Using Propensity Score Matching', *Learning and Individual Differences*, 49, pp. 278–286. Available at: https://doi.org/10.1016/j.lindif.2016.05.022.

Gronostaj, A., Werner, E., Bochow, E. and Vock, M. (2016) 'How to Learn Things at School You don't Already Know — Experiences of Gifted Grade Skippers in Germany', *Gifted Child Quarterly*, 60(1), pp. 31–46.

Gross, M. and van Vliet, H. (2005) 'Radical Acceleration and Early Entrance to College: A Review of the Research', *Gifted Child Quarterly*, 49(2), pp. 154–171.

Guenther, Z. C. (2004) 'Transforming Gifts into Talents: the DMGT as a Developmental Theory – a Response', *High Ability Studies*, 15(2), pp. 165–166.

Guthrie, J. T. and Ho, A. N. (2013) 'Patterns of Association among Multiple Motivations and Aspects of Achievement in Reading', *Reading Psychology*, 34(2), pp. 101–147.

Hallam, S., Ireson, J. and Davies, J. (2004) 'Primary Pupils' Experiences of Different Types of Grouping in School', *British Educational Research Journal*, 30(4), pp. 515–533.

Halsted, J. W. (2009) *Some of My Best Friends are Books: Guiding Gifted Readers from Preschool to High School*. 3rd edn. Scottsdale: Great Potential Press.

Hamilton, R., McCoach, D. B., Tutwiler, M. S., Siegle, D., Gubbins, E. J., Callahan, C. M., Brodersen, A. V. and Mun, R. U. (2018) 'Disentangling the Roles of Institutional and Individual Poverty in the Identification of Gifted Students', *Gifted Child Quarterly*, 62(1), pp. 6–24.

Hands, C. M. (2010) 'Why Collaborate? The Differing Reasons for Secondary School Educators' Establishment of School-community Partnerships', *School Effectiveness and School Improvement*, 21(2), pp. 189–207.

Hantrais, L. and Mangen, S. (1996) 'Method and Management of Cross-national Social Research', in *Cross-national Research Methods: in the Social Science*. London: Printer, pp. 1–12.

Hanushek, E. A. and Woessmann, L. (2006) 'Does Educational Tracking Affect Performance and Inequality? Differences-in-differences Evidence across Countries', *Economic Journal*, 116(510), pp. 63–76.

Harrison, C. (2004) *Understanding Reading Development*. London, Thousand Oaks and New Delhi: SAGE Publications.

Haworth, Claire M. A. Wright, Margaret J. Martin, N. W., Martin, Nicholas G. Boomsma, Dorret I. Bartels, M., Posthuma, Danielle Davis, O. S. P., Brant, A. M., Corley, R. P.,

Hewitt, J. K., Iacono, William G. McGue, Matthew Thompson, L. A., Hart, S. A., Petrill, Stephen A. Lubinski, D. and Plomin, R. (2009) 'A Twin Study of the Genetics of High Cognitive Ability Selected from 11,000 Twin Pairs in Six Studies from Four Countries', *Behavior Genetics*, 39(4), pp. 359–370.

Her Majesty's Stationery Office (1889) *Royal Commision on the Blind, the Deaf and the Dumb*.

Hesse-Biber, S. N. (2017) *The Practice of Qualitative Research: Engaging Students in the Research Process*. Thousands Oaks, CA: SAGE Publications.

Holloway, S. and Valentine, G. (2003) *Cyberkids: Children in the Information Age*. London & New York: RoutledgeFalmer.

Honan, E. (2010) 'Mapping Discourses in Teachers' Talk about Using Digital Texts in Classrooms', *Discourse: Studies in the Cultural Politics of Education*, 31(2), pp. 179–193.

Hood, M., Conlon, E. and Andrews, G. (2008) 'Preschool Home Literacy Practices and Children's Literacy Development: A Longitudinal Analysis', *Journal of Educational Psychology*, 100(2), pp. 252–271.

Hoover, W. A. and Gough, P. B. (1990) 'The Simple View of Reading', *Reading and Writing*, 2(2), pp. 127–160.

Hornby, G. (2011) *Parental Involvement in Childhood Education: Building Effective School-Family Partnerships*. New York: Springer.

Howe, M. J. (1997) *IQ in Question: The Truth about Intelligence*. London: SAGE Publications.

Hughes, I. and Yuan, L. (2005) 'The Status of Action Research in the People's Republic of China', *Action Research*, 3(4), pp. 383–402.

Imtiaz, S. (2014) 'Exploring Strategies for English Language Teaching of Pakistani Students in Public Sector Colleges', *Research Journal of English Language and Literature*, 2(2), pp. 247–253.

Israel, S. E., Sisk, D. A. and Block, C. C. (2007) *Collaborative Literacy: Using Gifted Strategies to Enrich Learning for Every Student*. Thousands Oaks: Corwin Press.

Issitt, J. (2004) 'Reflections on the Study of Textbooks', *History of Education*, 33(6), pp. 683–696.

Jackson, B. (1964) *Streaming: An Education System in Miniature*. London: Routledge & Kegan Paul.

Jackson, N. E. (1988) 'Precocious Reading Ability: What does it Mean?', *Gifted Child Quarterly*, 32(1), pp. 200–204.

Jaffri, H. (2012) *Conception of Giftedness and Talent by Pre Service and in Service Primary School Teachers in Johor, Malaysia : an Exploration Using a Multiphase Mixed Methods Design*. Durham University. Available at: http://ethos.bl.uk/OrderDetails.do?did=3&uin=uk.bl.ethos.614376.

Janks, H. (2010) *Literacy and Power*. 2nd edn. New York: Taylor & Francis Group.

Jewitt, C. (2008) ‘Multimodality and Literacy in School Classrooms’, *Review of Research in Education*, 32(1), pp. 241–267.

Job, J. and Coleman, M. R. (2016) ‘The Importance of Reading in Earnest: Non-Fiction for Young Children’, *Gifted Child Today*, 39(3), pp. 154–163.

Johnson, B. (2008) ‘Teacher–student Relationships which Promote Resilience at School: a Micro-Level Analysis of Students’ Views’, *British Journal of Guidance & Counselling*, 36(4), pp. 385–398.

Johnson, B. and Christensen, L. (2012) *Educational Research: Quantitative, Qualitative, and Mixed Approaches*. 4th edn. Thousands Oaks, CA: SAGE Publications, Inc.

Joshi, A. and Konzal, J. (2005) ‘Dialogue across Cultures: Teachers’ Perceptions about Communication with Diverse Families’, *Muilticultural Education*, 13(2), pp. 11–15.

Kaplan, S. (2005) ‘Layering Differentiated Curriculum for the Gifted and Talented’, in Karnes, F. and Bean, S. (eds) *Methods and Materials for Teaching Gifted Students*. Waco, TX: Prufrock Press.

Kaplan, S. N. (2017) ‘Advocacy: Self-Directed Differentiation: Learning-to-Learn’, *Gifted Child Today*, 40(2), pp. 109–110.

Kaya, F. (2015) ‘Teachers’ Conceptions of Giftedness and Special Needs of Gifted Students’, *Education and Science*, 40(177), pp. 59–74.

Keddie, A. (2016) ‘Academisation, School Collaboration and the Primary School Sector in England: a Story of Six School Leaders’, *School Leadership & Management*, 36(2), pp. 169–183.

Kendeou, P., McMaster, K. L. and Christ, T. J. (2016) ‘Reading Comprehension: Core Components and Processes’, *Reading, Writing, and Language*, 3(1), pp. 62–69.

Kenney, J. (2013) ‘Fostering Critical Thinking Skills: Strategies for Use with Intermediate Gifted Readers’, *Illinois Reading Council Journal*, 41(2), pp. 28–40.

Kim, M. (2016) ‘A Meta-Analysis of the Effects of Enrichment Programs on Gifted Students’, *Gifted Child Quarterly*, 60(2), pp. 102–116.

Kintsch, W. and van Dijk, T. A. (1978) ‘Toward a Model of Text Comprehension and Production’, *Psychological Review*, 85(5), pp. 363–394.

Kirkpatrick, R. and Zang, Y. (2011) ‘The Negative Influences of Exam-oriented Education on Chinese High School Students: Backwash from Classroom to Child’, *Language Testing in Asia*, 1(3), p. 36.

Klauda, S. L. and Guthrie, J. T. (2015) ‘Comparing Relations of Motivation, Engagement, and Achievement among Struggling and Advanced Adolescent Readers’, *Reading and Writing*, 28(2), pp. 239–269.

Koss, M. D. (2013) *Digital Children’s Book Apps: Bringing Children’s Literature to Life in New and Exciting Ways, Reading Today*. Available at: go.galegroup.com/ps/i.do?p=EAIM&sw=w&u=glasuni&v=2.1&id=GALE%7CA355775677&it=r&asid=9efaebc77fef88865558221d0443528a (Accessed: 22 September 2017).

Kretschmann, J., Vock, M., Lüdtke, O. and Gronostaj, A. (2016) 'Skipping to the Bigger Pond: Examining Gender Differences in Students' Psychosocial Development after Early Acceleration', *Contemporary Educational Psychology,* 46, pp. 195–207.

Labuda, M. (1974) 'Gifted and Creative Pupils: Reasons for Concern', in Labuda, M. (ed.) *Creative Reading for Gifted Learners: A Design for Excellence*. Newark, DE: International Reading Association.

Laine, S., Kuusisto, E. and Tirri, K. (2016) 'Finnish Teachers Conceptions of Giftedness', *Journal for the Education of the Gifted,* 39(2), pp. 151–167. doi: 10.1177/0162353216640936.

Landis, R. N. and Reschly, A. L. (2013) 'Reexamining Gifted Underachievement and Dropout Through the Lens of Student Engagement', *Journal for the Education of the Gifted,* 36(2), pp. 220–249.

Lapadat, J. C. and Lindsay, A. C. (1999) 'Transcription in Research and Practice: From Standardization of Technique to Interpretive Positionings', *Qualitative Inquiry,* 5(1), pp. 64–86.

Lau, K. (2017) 'The Most Important Thing is to Learn the Way to Learn': Evaluating the Effectiveness of Independent Learning by Perceptual Changes', *Assessment & Evaluation in Higher Education,* 42(3), pp. 415–430. Available at: 10.1080/02602938.2015.1118434%0D.

Lau, K. L. (2009) 'Reading Motivation, Perceptions of Reading Instruction and Reading Amount:A Comparison of Junior and Senior Secondary Students in Hong Kong', *Journal of Research in Reading,* 32(4), pp. 366–382.

Law, Y., Chan, C. K. K. and Sachs, J. (2008) 'Beliefs about Learning, Self-regulated Strategies and Text Comprehension among Chinese Children', *British Journal of Educational Psychology,* 78(1), pp. 51–73.

Leal, D. and Moss, B. (1999) 'Encounters with Information Text: Perceptions and Insights from Four Gifted Readers', *Reading Horizons,* 40(2), pp. 81–101.

Leavitt, M. and Geake, J. (2009) 'Giftedness Perceptions and Practices of Teachers in Lithuania', *Gifted and Talented International,* 24(2), pp. 139–148.

Lee, S.-Y., Olszewski-Kubilius, P., Makel, M. C. and Putallaz, M. (2015) 'Gifted Students' Perceptions of an Accelerated Summer Program and Social Support', *Gifted Child Quarterly,* 59(4), pp. 265–282.

Lee, W. O. (1996) 'The Cultural Context for Chinese Learners: Conceptions of Learning in the Confucian Tradition', *The Chinese Learner: Cultural, Psychological and Contextual Influences,* 34, pp. 63–67.

Levande, D. (1999) 'Gifted Readers and Reading Instruction', *CAG Communicator,* 30(1), pp. 41–42. Available at: http://www.hoagiesgifted.org/levande.htm (Accessed: 18 March 2015).

Li, J. (2015) 'From the Needham's Problem to the Issue of Influence of Chinese Traditional Culture on Traditional Education', *Educational Front,* January, pp. 155–156.

Li, L. and Wegerif, R. (2014) ‘What does it Mean to Teach Thinking in China?Challenging and Developing Notions of “Confucian Education.”’, *Thinking Skills and Creativity*, 11, pp. 22–32.

Li, L., Yan, D., Pan, X. and Zheng, J. (2017) ‘New Problems and Strategies in the Financial Reform in Compulsory Education’, in Li, L. and Zheng, J. (eds) *Chinese Elementary Education System Reform in Rural, Pastoral, Ethnic, and Private Schools: Six Case Studies*. Springer Nature Singapore Pte Ltd. and Higher Education Press. doi: 10.1007/978-981-10-4561-5.

Li, M. and Mou, Y. (2009) ‘Development of Supernormal Education in China and its Implication’, *Chinese Journal of Special Education*, 103(1), pp. 8–13.

Lincoln, Y., Lynham, S. and Guba, E. (2011) ‘Paradigmatic Controversies, Contradictions, and Emerging Confluences, Revisited.’, in YS, D. N. and L. (ed.) *The SAGE Handbook of Qualitative Research*. 4th edn. Thousands Oaks: SAGE Publications, Inc., pp. 97–128.

Lou, Y., Abrami, P. C., Spence, J. C., Poulsen, C., Chambers, B. and D’Apollonia, S. (1996) ‘Within-class Grouping: A Meta-analysis’, *Review of Educational Research*, 66(4), pp. 423–458.

Luan, L., Yu, L. and Li, H. (2009) ‘Research on the Education Equilibrium Development in the Regional Basic Education - Based on the Investigation about the Education Development Actually in Guangzhou’, *Theory Research*, (12), pp. 193–195.

Lunn, J. C. B. and Ferri, E. (1970) *Streaming in the Primary School: A Longitudinal Study of Children in Streamed and Non-streamed Junior Schools*. Slough: National Foundation for Educational Research in England and Wales.

MacKinnon, D. (2015) ‘Devolution, State Restructuring and Policy Divergence in the UK’, *The Geographical Journal*, 181(1), pp. 47–56.

Macqueen, S. E. (2013) ‘Grouping for Inequity’, *International Journal of Inclusive Education*, 17(3), pp. 295–309.

Maker, C. J. (1982) *Curriculum Development for the Gifted*. Austin, TX: Pro-Ed.

Maker, C. J. and Nielson, A. B. (1995) *Curriculum Development and Learning Strategies for the Gifted*. 2nd edn. Austin, TX: Pro-Ed.

Marais, P. (2016) ‘“We Can’t Believe What We See” : Overcrowded Classrooms through the Eyes of Student Teachers’, *South African Journal of Education*, 36(2), pp. 1–10.

Marsh, H. W. and Craven, R. G. (2006) ‘Reciprocal Effects of Self-Concept and Performance From a Multidimensional Perspective: Beyond Seductive Pleasure and Unidimensional Perspectives’, *Perspectives on Psychological Science*, 1(2), pp. 133–163.

Maxwell, B. (1996) ‘Third International Mathematics and Science Study (TIMSS): Technical Report’, in Martin, M. and Kelly, D. (eds) *Translation and Cultural Adaptation of the Survey Instruments: Design and Development (vol. I)*. Chestnut Hill, MA: Boston College.

May, T. (2011) *Social Research: Issues, Methods and Process*. 4th edn. Berkshire: Open University Press. Available at: https://www.dawsonera.com/readonline/9780335239986/startPage/110.

McClarty, K. L. (2015) 'Life in the Fast Lane: Effects of Early Grade Acceleration on High School and College Outcomes', *Gifted Child Quarterly*, 59(1), pp. 3–13.

McCulloch, M. and Sutherland, M. (2018) 'The Evolving Concept of Inclusive Education', in Carroll, M. and McCulloch, M. (eds) *Understanding Teaching and Learning in Primary Education*. 2nd edn. London: SAGE Publications, pp. 114–133.

McLaughlin, M. and DeVoogd, G. (2004) 'Critical Literacy as Comprehension: Expanding Reader Response', *Journal of Adolescent & Adult Literacy*, 48(1), pp. 52–62.

McLean, K. and Kulo, C. (2013) *Understanding the Children's Book Consumer in the Digital Age*. New York: Bowker Market Research.

Mcmillan, M. M. and Gentile, L. M. (1988) 'Commentary: Children's Literature: Teaching Critical Thinking and Ethics', *The Reading Teacher*, 41(9), pp. 876–878.

Merriam, S. B. and Tisdell, E. J. (2016) *Qualitative Research: A Guide to Design and Implementation*. 4th edn. San Francisco: Jossey-Bass A Wiley Brand.

Mertens, D. M. (2015) *Research and Evaluation in Education and Psychology: Integrating Diversity With Quantitative, Qualitative, and Mixed Methods*. 4th edn. Thousands Oaks: SAGE Publications, Inc.

Miller, D. (2009) 'Effective Reading Instruction for Gifted Readers', *Gifted Education International*, 25(3), pp. 281–285.

Miller, T. W. G. (1961) *Values in the Comprehensive School*. Birmingham: Educ. Monographs.

MOE (1999) *The Decision of the State Council of the Central Committee of the Communist Party of China on Deepening Education Reform and Comprehensively Promoting Quality-oriented Education*. Available at: http://old.moe.gov.cn//publicfiles/business/htmlfiles/moe/moe_177/200407/2478.html (Accessed: 24 March 2018).

MOE (2001) *Outline of the Curriculum Reform for Basic Education (Trial)*. Available at: http://old.moe.gov.cn//publicfiles/business/htmlfiles/moe/moe_309/200412/4672.html (Accessed: 26 March 2018).

MOE (2011) *Literacy Curriculum Standards for Full-Day Compulsory Education*. Available at: http://old.pep.com.cn/xiaoyu/jiaoshi/tbjx/kbjd/kb2011/.

MOE (2017) *An Overview of Education in China - The Development Situation of Education of the Whole Country in 2016*. Available at: http://www.moe.gov.cn/jyb_sjzl/s5990/201711/t20171110_318862.html (Accessed: 23 March 2018).

Montgomery, D. (2013) *Gifted and Talented Children with Special Educational Needs: Double Exceptionality*. London: Routledge.

Moon, T. and Brighton, C. (2008) 'Primary Teachers' Conceptions of Giftedness.', *Journal for the Education of the Gifted*. Available at: http://eric.ed.gov/?id=EJ799762 (Accessed: 21 June 2016).

Moore, M. (2005) 'Meeting the Educational Needs of Young Gifted Readers in the Regular Classroom', *Gifted Child Today*, 28(4).

Moore, M. G. (1973) 'Toward a Theory of Independent Learning and Teaching', *The Journal of Higher Education*, 44(9), pp. 661–679.

Morse, J. M. (1994) 'Designing Funded Qualitative Research', in Denzin, N. K. and Lincoln, Y. S. (eds) *Handbook of qualitative research*. CA: SAGE Publications, pp. 220–235.

Morse, J. and Richards, L. (2002) *READ ME FIRST for a User's Guide to Qualitative Methods*. London: SAGE Publications.

Moser, A. and Korstjens, I. (2018) 'Series: Practical Guidance to Qualitative Research. Part 3: Sampling, Data Collection and Analysis', *European Journal of General Practice*, 24(1), pp. 9–18.

Mustafa, H., Mahmoud, S., Assaf, I., Al-Hamadi, A. and Abdulhamid, Z. (2014) 'Comparative Analogy of Overcrowded Effects in Classrooms versus Solving "Cocktail Party Problem"', *International Journal of Engineering Science and Innovative Technology*, 3(2), pp. 175–182.

Mustafa, M. and Cullingford, C. (2008) 'Teacher Autonomy and Centralised Control: the Case of Textbooks', *International Journal of Educational Development*, 28(1), pp. 81–88.

National People's Congress (1986) *Law of Compulsory Education*. Beijing: National People's Congress.

National Records of Scotland (2017) *Mid-Year Population Estimates Scotland, Mid-2016: Population Estimates by Sex, Age and Area*. Edinburgh. Available at: https://www.nrscotland.gov.uk/files//statistics/nrs-visual/mid-year-16/16mype-cahb-info.pdf (Accessed: 11 December 2017).

Neihart, M. (2007) 'The Socioaffective Impact of Acceleration and Ability Grouping: Recommendations for Best Practice', *Gifted Child Quarterly*, 51(4), pp. 330–341.

Neumeister, K. L. S., Adams, C. M., Pierce, R. L., Cassady, J. C. and Dixon, F. A. (2007) 'Fourth-Grade Teachers' Perceptions of Giftedness: Implications for Identifying and Serving Diverse Gifted Students', *Journal for the Education of the Gifted*, 30(4), pp. 479–499.

Ng, C. and Graham, S. (2017) 'Engaging Readers in the Twenty-First Century: What We Know and Need to Know More', in C., N. and B., B. (eds) *Improving Reading and Reading Engagement in the 21st Century*. Singapore: Springer, pp. 17–46.

Niklas, F. and Schneider, W. (2013) 'Home Literacy Environment and the Beginning of Reading and Spelling', *Contemporary Educational Psychology*, 38(1), pp. 40–50.

Nodelman, P. and Reimer, M. (2003) *The Pleasures of Children's Literature*. 3rd edn. Boston, MA: Allyn & Bacon.

Nomi, T. (2009) 'The Effects of Within-Class Ability Grouping on Academic Achievement in Early Elementary Years', *Intervention, Evaluation and Policy Studies*, 3(1), pp. 56–92.

O'Brien, J. (2011) 'Continuing Professional Development for Scottish Teachers: Tensions in Policy and Practice', *Professional Development in Education*, 37(5), pp. 777–792.

Office for Naitonal Statistics (2017) *Overview of the UK Population: July 2017*. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/overviewoftheukpopulation/july2017 (Accessed: 11 December 2017).

Oh, S. A. (2002) *From 'Ivory Tower' to 'Knowledge Factory'?: the Impact of University-Industry Links on Universities in China and England*. University of Oxford.

Olszewski-Kubilius, P. (2008) 'The Role of the Family in Talent Development', in Pfeiffer, S. I. (ed.) *Handbook of Giftedness in Children: Psycho-educational Theory, Research, and Best Practices*. New York: Springer, pp. 53–70.

Olszewski-Kubilius, P. and Corwith, S. (2017) 'Poverty, Academic Achievement, and Giftedness: A Literature Review', *Gifted Child Quarterly*, 00(0), pp. 1–19.

Olthouse, J. M. (2016) 'Multiliteracies Theory and Gifted Education: Creating "Smart Spaces" in the Language Arts Classroom', *Gifted Child Today*, 36(4), pp. 247–253.

Parsons, S. and Hallam, S. (2014) 'The Impact of Streaming on Attainment at Age Seven: Evidence from the Millennium Cohort Study', *Oxford Review of Education*, 40(5), pp. 567–589.

Patton, M. Q. (1987) *How to Use Qualitative Methods in Evaluation*. Newbury Park, CA: SAGE Publications, Inc.

Patton, M. Q. (2015) *Qualitative Research and Education Methods*. 4th edn. Thousands Oaks, CA: SAGE Publications, Inc.

Pearson, L. C. and Moomaw, W. (2005) 'The Relationship between Teacher Autonomy and Stress, Work Satisfaction, Empowerment, and Professionalism', *Educational Research Quarterly*, 29(1), pp. 37–53.

Pérez, L. F. and Beltrán, J. A. (2012) 'Can Systemic Education End up Limiting the Gifted Person's Autonomy?', *High Ability Studies*, 23(1), pp. 93–95.

Phillips, D. and Schweisfurth, M. (2014) *Comparative and International Education: an Introduction to Theory, Method, and Practice*. 2nd edn. London & New York: Bloomsbury Academic.

Piske, F. H. R., Stoltz, T. and Machado, J. (2014) 'Creative Education for Gifted Children', *Creative Education*, 5, pp. 347–352.

Plucker, J. A. and Callahan, C. M. (2014) 'Research on Giftedness and Gifted Education: Status of the Field and Considerations for the Future', *Exceptional Children*, 80(4), pp. 390–406.

Porath, M. (2004) 'Transforming Gifts into Talents: the DMGT as a Developmental Theory – a Response', *High Ability Studies*, 15(2), pp. 153–155.

Powney, J. and Watts, M. (1987) *Interviewing in Educational Research*. London: Routledge & Kegan Paul.

Preckel, F., Götz, T. and Frenzel, A. (2010) 'Ability Grouping of Gifted Students: Effects on Academic Self-concept and Boredom', *British Journal of Educational Psychology*, 80(3), pp. 451–472.

Prensky, M. (2001) 'Digital Natives, Digital Immigrants', *On the Horizon*, 9(5), pp. 1–6.

Pressey, S. L. (1949) *Educational Acceleration: Appraisal of Basic Problems, Bureau of Educational Research Monograph No. 31*. Columbus, OH: The Ohio State University Press.

Priestley, M. (2013) 'The 3–18 Curriculum in Scottish Education', in Bryce, T. G. K., Humes, W. M., Gillies, D., and Kennedy, A. (eds) *Scottish Education*. 4th edn. Edinburgh: Edinburgh University Press.

Priestley, M. and Humes, W. (2010) 'The Development of Scotland's Curriculum for Excellence: amnesia and déjà vu', *Oxford Review of Education*, 36(3), pp. 345–361.

Priestley, M. and Minty, S. (2013) 'Curriculum for Excellence: "A Brilliant Idea, But…"', *Scottish Educational Review*, 45(1), pp. 39–52.

Pring, R. (2004) *Philosophy of Educational Research*. London: Continuum.

Rambo, K. E. and McCoach, D. B. (2012) 'Teacher Attitudes toward Subject-Specific Acceleration: Instrument Development and Validation', *Journal for the Education of the Gifted*, 35(2), pp. 129–152.

Rao, N., Pearson, E., Cheng, K. and Taplin, M. (2013) *Teaching in Primary Schools in China and India: Contexts for Learning*. Abingdon, Oxon: Routledge.

Rapley, T. (2007) *Doing Conversation, Discourse and Document Analysis*. London: SAGE Publications.

Rassoul, N. (1999) *Literacy for Sustainable Development in the Age of Information*. Clevedon: Multilingual Matters.

Reichenberg, M. and Andreassen, R. (2017) 'Similar but Not the Same: Comparing Norwegian and Swedish Teachers' Influence on Textbook Selection and Involvement in Text Discussions', *IARTEM e-Journal*, 9(1), pp. 4–27.

Reis, S. M., Eckert, R. D., Jacobs, J. K., Coyne, M. D., Richards, S. and Briggs, C. J. (2002) *Schoolwide Enrichment Model Reading Framework*. Storrs: National Research Center on the Gifted and Talented, University of Connecticut.

Reis, S. M., Eckert, R. D., McCoach, D. B., Jacobs, J. J. and Coyne, M. (2008) 'Using Enrichment Reading Practices to Increase Reading Fluency, Comprehension, and Attitudes', *Journal of Educational Studies*, 101(5), pp. 299–314.

Reis, S. M., Gubbins, E. J., Briggs, C. J., Schreiber, F. J., Richards, S., Jacobs, J. K. and Renzulli, J. S. (2004) 'Reading Instruction for Talented Readers: Case Studies Documenting Few Opportunities for Continuous Progress', *Gifted Child Quarterly*, 48(4), pp. 315–338.

Reis, S. M., Gubbins, E. J. and Richards, S. (2001) *Gifted Readers: What do we Know and What should we be Doing, National Research Center on the Gifted and Talented: University of Connecticut*. Available at: http://aea11gt.pbworks.com/f/nagcread.pdf (Accessed: 18 October 2016).

Reis, S. M., McCoach, D. B., Little, C. A., Muller, L. M. and Kaniskan, R. B. (2011) 'The Effects of Differentiated Instruction and Enrichment Pedagogy on Reading Achievement in Five Elementary Schools', *American Educational Research Journal*, 48(2), pp. 462–501.

Reis, S. M. and Renzulli, J. S. (1989) ‘Providing Challenging Programs for Gifted Readers’, *Roeper Review*, 12(2), pp. 93–97.

Renzulli, J. (1978) ‘What makes giftedness? Reexamining a definition.’, *Phi Delta Kappan*. Available at: http://eric.ed.gov/?id=EJ190430 (Accessed: 18 March 2015).

Renzulli, J. S. (1977) *The Enrichment Triad Model: A Guide for Developing Defensible Programs for the Gifted and Talented*. Mansfield Centre, CT: Creative Learning Press.

Renzulli, J. S. (1978) ‘What Makes Giftedness? Reexamining a Definition’, *Phi Delta Kappan*, 60(3), pp. 180–184, 261.

Renzulli, J. S. (1986) ‘The Three Ring Conception of Giftedness: a Developmental Model for Creative Productivity’, in Sternberg, R. J. and Davidson, J. E. (eds) *Conception of Giftedness*. Cambridge: Cambridge University Press, pp. 53–92.

Renzulli, J. S. (2002) ‘Emerging Conceptions of Giftedness: Building a Bridge to the New Century’, *Exceptionality*, 10(2), pp. 67–75.

Renzulli, J. S. (2005) ‘Applying Gifted Education Pedagogy to Total Talent Development for All Students’, *Theory into Practice*, 44(2), pp. 80–89.

Renzulli, J. S. (2012) ‘Reexamining the Role of Gifted Education and Talent Development for the 21st Century: A Four-Part Theoretical Approach’, *Gifted Child Quarterly*, 56(3), pp. 150–159.

Renzulli, J. S. and Reis, S. M. (1985) *The Schoolwide Enrichment Model: A Comprehensive Plan for Educational Excellence*. Mansfield Centre, CT: Creative Learning Press.

Renzulli, J. S. and Reis, S. M. (1997) *The Schoolwide Enrichment Model: A How-to Guide for Educational Excellence*. 2nd edn. Mansfield Centre, CT: Creative Learning Press.

Reutzel, D. R. and Larsen, N. S. (1995) ‘Look what they’ve Done to Real Children’s Books in the New Basal Readers!’, *Language Arts*, 72(7), pp. 495–507.

Robinson, N. M. (2004) ‘Effects of Academic Acceleration on the Social-emotional Status of Gifted Students’, in Colangelo, N., Assouline, S. G., and Gross, M. U. M. (eds) *A Nation Deceived: How Schools Hold Back America’s Brightest Students*. Washington, DC: The Connie Belin & Jacqueline N. Blank International Center for Gifted Education and Talent Development, pp. 59–67.

Rodrigue, T. K. (2017) ‘Digital Reading: Genre Awareness as a Tool for Reading Comprehension’, *Pedagogy*, 17(2), pp. 235–257.

Rogers, K. B. (1993) ‘Grouping the Gifted and Talented: Questions and Answers’, *Roeper Review*, 16(1), pp. 8–12.

Rohrer, J. C. (1995) ‘Primary Teacher Conceptions of Giftedness: Image, Evidence, and Nonevidence’, *Journal for the Education of the Gifted*, 18(3), pp. 269–283.

Roiha, A. S. (2014) ‘Teachers’ Views on Differentiation in Content and Language Integrated Learning (CLIL): Perceptions, Practices and Challenges, Language and Education’, *Language and Education*, 28(1), pp. 1–18.

Rouse, M. (2006) ‘Enhancing Effective Inclusive Practice: Knowing, Doing and Believing’, *Kairaranga*, 7, pp. 8–13.

Ruan, J. and Jin, L. (2012) 'Primary School Chinese Language and Literacy Curriculum Reforms in China After 1949', in Leung, C. B. and Ruan, J. (eds) *Perspectives on Teaching and Learning Chinese Literacy in China*. New York & London: Springer Science+Business Media Dordrech. doi: https://doi-org.ezproxy.lib.gla.ac.uk/10.1007/978-94-007-4822-4.

Rubin, A. (2018) 'Introduction of Global Issues', in Spiro, R. J., Bruce, B. C., and Brewer, W. (eds) *Theoretical Issues in Reading Comprehension: Perspectives from Cognitive Psychology, Linguistics, Artificial Intelligence and Education*. 2nd edn. Abingdon, Oxon: Routledge, pp. 7–9.

Ruf, D. L. (2003) *Use of the SB5 in the Assessment of High Abilities (Stanford-Binet Intelligence Scales, 5th ed.: Assessment Service Bulletin No. 3)*. Itasca, IL: Riverside Publishing.

Ryan, T. G. and Coneybeare, S. (2013) 'The Underachievement of Gifted Students: A Synopsis', *The Journal of the International Association of Special Education*, 14(1), pp. 58–66.

Saccardi, M. (2014) *Creativity and Children's Literature: New Ways to Encourage Divergent Thinking*. California: Libraries Unlimited.

Sandelowski, M. (1995) 'Sample Size in Qualitative Research', *Research in Nursing & Health*, 18(2), pp. 179–183.

Sarantakos, S. (2013) *Social Research*. 4th edn. London: Palgrave Macmillan.

Sargeant, B. (2015) 'What is an Ebook? What is a Book App? And Why Should We Care? An Analysis of Contemporary Digital Picture Books', *Children's Literature in Education*, 46(4), pp. 1–13.

Sarouphim, K. M. (2012) 'How Novel is the Actiotope Model of Gifted Education', *High Ability Studies*, 23(1), pp. 101–103.

Schiever, S. W. and Maker, C. J. (2003) 'New Directions in Enrichment and Acceleration', in Colangelo, N. and Davis, G. A. (eds) *Handbook of Gifted Education*. Boston, MA: Allyn & Bacon, pp. 163–173.

Scottish Education Department (1978) *The Education of Pupils with Learning Difficulties in Primary and Secondary Schools in Scotland: A Progress Report (Edinburgh, HMSO)*.

Scottish Government (2000) *Standards In Scotland's Schools etc. (Scotland) (2000) Act*.

Scottish Government (2004) *The Additional Support for Learning (Scotland) (2004, 2009) Act*.

Scottish Government (2005) *Supporting Children's Learning: Code of Practice*. Available at: http://www.gov.scot/Publications/2005/08/15105817/58187.

Scottish Government (2008) *Pupils in Scotland, 2008*. Available at: http://www.gov.scot/Publications/2009/04/01090908/13.

Scottish Government (2012a) *Getting It Right For Every Child*. Available at: http://www.gov.scot/Resource/0045/00458341.pdf.

Scottish Government (2012b) *Pupil Census 2012 Supplementary Data*. doi: http://www.gov.scot/Topics/Statistics/Browse/School-Education/dspupcensus/pupcensus2012.

Scottish Government (2014a) *Children and Young People (Scotland) Act 2014*. Available at: http://www.legislation.gov.uk/asp/2014/8/contents/enacted.

Scottish Government (2014b) *Raising Attainment for All – Scotland: The Best Place in the World to Go to School.* Edinburgh: Scottish Government.

Scottish Government (2016a) *National Improvement Framework for Scottish Education: Achieving Excellence and Equity*. Edinburgh: Scottish Government.

Scottish Government (2016b) *Pupil Census 2015 Supplementary Data*. Available at: http://www.gov.scot/Topics/Statistics/Browse/School-Education/dspupcensus/dspupcensus15 (Accessed: 26 July 2016).

Scottish Government (2017a) *Education and Training*.

Scottish Government (2017b) *Pupil Census 2017*. Available at: http://www.gov.scot/Topics/Statistics/Browse/School-Education/dspupcensus/dspupcensus17.

Scottish Government (no date a) *Curriculum for Excellence: Literacy across Learning, Principles and Practice*. Available at: https://education.gov.scot/Documents/literacy-across-learning-pp.doc (Accessed: 21 September 2017).

Scottish Government (no date b) *Early Education and Care*.

Scottish Network for Able Pupils (2009) *Guidance for Addresssing the Needs of Highly Able Pupils*. Edinburgh: HMSO.

Scottish Teacher Education Committee (2014) *National Framework for Inclusion*. Available at: http://www.frameworkforinclusion.org/pages/index.php?category=0 (Accessed: 9 May 2018).

Sechrest, L., Fay, T. L. and Zaidi, S. M. H. (1972) 'Problems of Translation in Cross-cultural Research', *Journal of Cross-cultural Psychology*, 3(1), pp. 41–56.

Sękowski, A. E. and Łubianka, B. (2015) 'Education of Gifted Students in Europe', *Gifted Education International*, 31(1), pp. 73–90.

Serafini, F. and Youngs, S. (2013) 'Reading Workshop 2.0: Children's Literature in the Digital Age', *The Reading Teacher*, 66(5), pp. 401–404.

Sharp, L. A. and Clemmer, P. (2015) 'The Neglected Readers: Differentiating Instruction for Academically Gifted and Talented Learners', *The Journal of Balanced Literacy Research and Instruction*, 3(1), pp. 17–21.

Shaunessy-Dedrick, E., Evans, L., Ferron, J. and Lindo, M. (2015) 'Effects of Differentiated Reading on Elementary Students' Reading Comprehension and Attitudes Toward Reading', *Gifted Child Quarterly*, 59(2), pp. 91–107. doi: 10.1177/0016986214568718.

Shields, C. M. (2002) 'A Comparison Study of Student Attitudes and Perceptions in Homogeneous and Heterogeneous Classrooms', *Roeper Review*, 24(3), pp. 115–119.

Shor, I. (1999) 'What is Critical Literacy?', *Journal of Pedagogy, Pluralism and Practice*, 1(4), pp. 1–30.

Siegle, D. (2008) 'The Time is Now to Stand Up for Gifted Education: 2007 NAGC Presidential Address', *Gifted Child Quarterly*, 52(2), pp. 111–113.

Simonton, D. K. (2004) 'Adding Developmental Trajectories to the DMGT: nonlinear and nonadditive genetic inheritance and expertise acquisition', *High Ability Studies*, 15(2), pp. 151–152.

Simpson, J. (2017) 'Literacy and the Gifted', in Adams, M., Rodriguez, S., and Zimmer, K. (eds) *Culturally Relevant Teaching: Preparing Teachers to Include All Learners*. London: Rowman & Littlefield, pp. 29–42.

Sisk, D. (2009) 'Myth 13: the Regular Classroom Teacher can "'Go it Alone'"', *Gifted Child Quarterly*, 53(4), pp. 269–271.

Sit, H. H. W. (2013) 'Characteristics of Chinese Students' Learning Styles', *International Proceedings of Economics Development and Research*, 62(8), pp. 36–39.

Skaalvik, E. M. and Skaalvik, S. (2014) 'Teacher Self-efficacy and Perceived Autonomy: Relations with Teacher Engagement, Job Satisfaction, and Emotional Exhaustion', *Psychological Reports*, 114(1), pp. 68–77.

Slavin, R. E. (1987) 'Ability Grouping and Student Achievement in Elementary Schools: A Best-Evidence Synthesis', *Review of Educational Research*, 57(3), pp. 293–336.

Smith, C. M. M. (2006) 'Principles of Inclusion: Implications for Able Learners', in Smith, C. M. M. (ed.) *Including the Gifted and Talented: Making Inclusion Work for More Gifted and Able Learners*. London & New York: Routledge.

Smith, L. M. and Campbell, J. (2012) *Families, Education and Giftedness：Case Studies in the Construction of High Achievement*. Rotterdam: Sense Publishers.

Smith, S. and Arthur-Kelly, M. (2016) 'Perceptions of Differentiating Pedagogy for Gifted Readers, Typically Developing Readers, and Students with Reading Difficulties in Multi-grade Primary Classrooms', *Australasian Journal of Gifted Education*, 25(2), pp. 52–69.

Southern, W. T. and Jones, E. D. (2004) 'Types of Acceleration: Dimensions and Issues', in Colangelo, N., Assouline, S., and Gross, M. (eds) *A Nation Deceived: How Schools Hold Back America's Brightest Students*. Iowa City: University of Iowa, pp. 5–12.

Stack, N. and Sutherland, M. (2014) 'Seeing beyond Statistics: Examining the Potential for Disjuncture between Legislation, Policy and Practice in Meeting the Needs of Highly Able Scottish Students', *Psihološka Obzorja*, 23, pp. 145–154.

Steenbergen-Hu, S., Makel, M. C. and Olszewski-Kubilius, P. (2016) 'What One Hundred Years of Research Says About the Effects of Ability Grouping and Acceleration on K–12 Students' Academic Achievement: Findings of Two Second-Order Meta-Analyses', *Review of Educational Research*, 86(4), pp. 849–899.

Sternberg, R. J. (2003) 'WICS as a Model of Giftedness', *High Ability Studies*, 14(2), pp. 109–137.

Sternberg, R. J. (2007) 'Cultural Concepts of Giftedness', *Roeper Review*, 29(3), pp. 160–165.

Sternberg, R. J. and Zhang, L. (1995) 'What Do We Mean by Giftedness? A Pentagonal Implicit Theory', *Gifted Child Quarterly*, 39(2), pp. 88–94.

Stevenson, H. W., Lee, S. Y. and Chen, C. (1994) 'Education of Gifted and Talented Students in Mainland China, Taiwan, and Japan', *Journal for the Education of the Gifted*, 17(2), pp. 104–130.

Stoeger, H., Fleischmann, S. and Obergriesser, S. (2015) 'Self-regulated Learning (SRL) and the Gifted Learner in Primary School: the Theoretical Basis and Empirical Findings on a Research Program Dedicated to Ensuring that All Students Learn to Regulate Their Own Learning', *Asia Pacific Education Review*, 16(2), pp. 257–267.

Stoeger, H., Hopp, M. and Ziegler, A. (2017) 'Online Mentoring as an Extracurricular Measure to Encourage Talented Girls in STEM (Science, Technology, Engineering, and Mathematics): An Empirical Study of One-on-One Versus Group Mentoring', *Gifted Child Quarterly*, 61(3), pp. 239–249.

Stoeger, H., Sontag, C. and Ziegler, A. (2014) 'Impact of a Teacher-led Intervention on Preference for Self-regulated Learning, Finding Main Ideas in Expository Texts, and Reading Comprehension', *Journal of Educational Psychology*, 106(3), pp. 799–814.

Stoeger, H., Steinbach, J., Obergriesser, S. and Matthes, B. (2014) 'What is More Important for Fourth-grade Primary School Students for Transforming their Potential into Achievement: the Individual or the Environmental Box in Multidimensional Conceptions of Giftedness?', *High Ability Studies*, 25(1), pp. 5–21.

Stoop, J., Kreutzer, P. and Kircz, J. (2013) 'Reading and Learning from Screens Versus Print: a Study in Changing Habitss: Part 1 – Reading Long Information Rich Texts', *New Library World*, 114(7/8), pp. 284–300.

Subotnik, R. F., Olszewski-Kubililus, P. and Worrell, F. C. (2011) 'Rethinking Giftedness and Gifted Education: A Proposed Direction forward for Gifted Education Based on Psychological Science', *Psychological Science in the Public Interest*, 12(1), pp. 3–54.

Sun, B. (2015) 'Education of the Children of Migrant workers in the Context of New Urbanization: A Case Study of the City of Guangzhou', *Youth Exploration*, 86–91(3).

Sutherland, M. (2011) 'Highly Able Pupils in Scotland: Making Curriculum Change Count', *Journal of the Institute for Educational Research*, 43(2), pp. 195–207.

Sutherland, M. (2012) 'Paradigmatic Shift or Tinkering at the Edges?', *High Ability Studies*, 23(1), pp. 109–111.

Sutherland, M. and Stack, N. (2014) 'Ability as an Additional Support Need: Scotland's Inclusive Approach to Gifted Education', *CEPS Journal*, 4(30), pp. 73–87.

Sutherland, M. and Stack, N. (2018) 'Creating Challenge in the Classroom', in Carroll, M. and McCulloch, M. (eds) *Understanding Teaching and Learning in Primary Education*. 2nd edn. London: SAGE Publications, pp. 170–185.

Tan, C. (2017) 'Constructivism and Pedagogical Reform in China: Issues and Challenges', *Globalisation, Societies and Education*, 15(2), pp. 238–247.

Tan, C. and Hairon, S. (2016) 'Education Reform in China: Toward Classroom Communities', *Action in Teacher Education*, 38(4), pp. 315–326.

Terman, L. M. (1926) *Genetic Studies of Genius: Mental and Physical Traits of a Thousand Gifted Children*. 2nd edn. Stanford, CA: Stanford University Press.

Tesch, R. (1990) *Qualitative Research: Analysis Types and Software Tools*. London: Falmer Press.

The Educational Institute of Scotland (2018) *Curriculum for Excellence: Numeracy and Literacy*. Available at: https://www.eis.org.uk/Content/images/Employ Relations/Policies/CirriculumForExcellenceLiteracyNumeracy.pdf (Accessed: 3 April 2018).

The General Teaching Council For Scotland (no date) *SCOTLAND'S EDUCATION SYSTEM*. Available at: http://www.gtcs.org.uk/TeacherJourney/scotlands-education-system.aspx (Accessed: 30 December 2017).

The World Bank (2017) *China*. Available at: http://www.worldbank.org/en/country/china/overview (Accessed: 7 December 2017).

Thurstone, L. L. (1938) *Primary Mental Abilities*. Chicago: University of Chicago Press.

Tomlinson, C. A. (1995) 'Deciding to Differentiate Instruction in Middle School: One School's Journey', *Gifted Child Quarterly*, 39(2), pp. 77–87.

Tomlinson, C. A. (2001) *How to Differentiate Instruction in Mixed-Ability Classrooms*. 2nd edn. Upper Saddle River, NJ: Pearson Education.

Tomlinson, C. A. (2014) *The Differentiated Classroom: Responding to the Needs of All Learners*. 2nd edn. Alexandria, VA: ASCD.

Tomlinson, C. A., Brighton, C., Hertberg, H., Callahan, C. M., Moon, T. R., Brimijoin, K., Conover, L. A. and Reynolds, T. (2003) 'Differentiating Instruction in Response to Student Readiness, Interest, and Learning Profile in Academically Diverse Classrooms: A Review of Literature', *Journal For the Education of the Gifted*, 27(2/3), pp. 119–145.

Torrance, D. and Forde, C. (2017) 'Redefining What it Means to be a Teacher through Professional Standards: Implications for Continuing Teacher Education', *European Journal of Teacher Education*, 40(1), pp. 110–126.

Trautwein, U., Lüdtke, O., Schnyder, I. and Niggli, A. (2006) 'Predicting Homework Effort: Support for a Domain-Specific, Multilevel Homework Model', *Journal of Educational Psychology*, 98(2), pp. 438–456.

Treffinger, D. J. (1993) 'Fostering Effective Independent Learning through Individualized Programming', in S., J. and Renzulli (eds) *Systems and Models for Developing Programs for the Gifted and Talented*. Australia: Hawker Brownlow, pp. 429–460.

Trezise, R. L. (1977) 'Teaching Reading to the Gifted', *Language Arts*, 54(8), pp. 920–924. Available at: http://www.jstor.org/stable/41404567 (Accessed: 18 March 2015).

Tunnell, M. O. and Jacobs, J. S. (1989) 'Using "Real" Books: Research Findings on Literature Based Reading Instruction', *The Reading Teacher*, 42(7), pp. 470–477.

Tymms, P. (2012) 'Questionnaires', in Arthur, J., Waring, M., Coe, R., and Hedges, L. V. (eds) *Research Methods & Methodologies in Education*. London: SAGE Publications, pp. 231–240.

UNESCO (1994) *The Salamanca Statement and Framework for Action on Special Needs Education*. Paris.

UNESCO (2004) *The Plurality of Literacy and its Implications for Policies and Programs*. Available at: http://unesdoc.unesco.org/images/0013/001362/136246e.pdf.

UNESCO (2017) *Reading the Past, Writing the Future: Fifty Years of Promoting Literacy*. Available at: http://unesdoc.unesco.org/images/0024/002475/247563e.pdf (Accessed: 10 April 2018).

UNICEF (1989) *The United Nations Convention on the Rights of the Child in 1989*.

VanTassel-Baska, J. (2011) 'An Introduction to the Integrated Curriculum Model', in VanTassel-Baska, J. and Little, C. A. (eds) *Content Based Curriculum for High-ability Leaners*. 2nd edn. Waco, TX: Prufrock Press Inc., pp. 9–32.

VanTassel-Baska, J. (2017) 'Curriculum Issues: What Makes Differentiated Curriculum Work?', *Gifted Child Today*, 40(1), pp. 62–63.

VanTassel-Baska, J. L. (1998) *Comprehensive Curriculum for the Gifted Learners*. Boston: Allyn and Bacon.

VanTassel-Baska, J. and Stambaugh, T. (2005) 'Challenges and Possibilities for Serving Gifted Learners in the Regular Classroom', *Theory Into Practice*, 44(3), pp. 211–217.

De Vaus, D. (2009) 'Comparative and Cross-National Designs', in Alasuutari, P., Bickman, L., and Brannen, J. (eds) *The SAGE Handbook of Social Research Methods*. London: SAGE Publications, pp. 249–267.

Vladut, A., Vialle, W. and Ziegler, A. (2015) 'Learning Resources within the Actiotope: A Validation Study of the QELC (Questionnaire of Educational and Learning Capital)', *Psychological Test and Assessment Modeling*, 57(1), pp. 40–56.

Vosslamber, A. (2002) 'Gifted Readers: Who are they, and How can they be Served in the Classroom?', *Gifted Child Today*, 25(2), pp. 14–20.

Vrignaud, P., Bonora, D. and Dreux, A. (2013) 'Education Practices for Gifted Learners in France', in Balchin, T., Hymer, B., and Matthews, D. J. (eds) *The Routledge International Companion to Gifted Education*. Abingdon, Oxon: Routledge. Available at: https://www-routledgehandbooks-com.ezproxy.lib.gla.ac.uk/doi/10.4324/9780203609385.ch9.

Vygotsky, L. S. (1978) *Mind in Society: The Development of Higher Mental Process*. Cambridge, MA: Harvard University Press.

Walker, C. L. and Shore, B. M. (2011) 'Theory of Mind and Giftedness: New Connections', *Journal for the Education of the Gifted*, 34(4), pp. 644–668.

Walsh, R., Bowes, J. and Sweller, N. (2017) 'Why Would You Say Goodnight to the Moon?Response of Young Intellectually Gifted Children to Lower and Higher Order Questions During Storybook Reading', *Journal for the Education of the Gifted*, 40(3), pp. 220–246.

Wang, D. (2011) 'The Dilemma of Time: Student-centered Teaching in the Rural Classroom in China', *Teaching And Teacher Education*, 27(1), pp. 157–164.

Wang, J. and Chu, H. (2013) 'Measures and Enlightenment of Gifted Education in Singapore', *Comparative Education Review*, 5(280), pp. 43–47.

Wang, Q. and Zhao, J. (2006) *Children's Literature and Literacy Teaching in Primary and Secondary Schools*. Guangzhou: Guangdong Education Press.

Waugh, D., Neaum, S. and Waugh, R. (2013) *Children's Literature in Primary Schools*. SAGE Publications. Available at: https://books.google.com/books?hl=en&lr=&id=u1JpBAAAQBAJ&pgis=1 (Accessed: 18 March 2015).

Weber, C. and Cavanaugh, T. (2006) 'Promoting Reading: Using eBooks with Gifted and Advanced Readers.', *Gifted Child Today*, 29(4), pp. 56–63.

Weber, C. L., Johnson, L. and Tripp, S. (2013) 'Implementing Differentiation: a School's Journey', *Gifted Child Today*, 36(3), pp. 179–186.

Weigel, D. J., Martin, S. S. and Bennett, K. K. (2006) 'Contributions of the Home Literacy Environment to Preschool-aged Children's Emerging Literacy and Language Skills', *Early Child Development and Care*, 176(3–4), pp. 357–378.

Werner, O. and Campbell, D. T. (1970) 'Translating, Working through Interpreters, and the Problem of Decentering', in Naroll, R. and Cohen, R. (eds) *A Handbook of Method in Cultural Anthropology*. New York: The Natural Histroy Press, pp. 398–420.

Westberg, K. L. and Leppien, J. H. (2018) 'Student Independent Investigations for Authentic Learning', *Gifted Child Today*, 41(1), pp. 13–18.

Winch, G., Johnston, R. R., Holiday, M., Ljungdahl, L. and March, P. (2006) *Literacy: Reading, Writing and Children's Literature*. 3rd edn. Oxford: Oxford University Press.

Winebrenner, S. (2001) *Teaching Gifted Kids in the Regular Classroom: Strategies and Techniques Every Teacher Can Use To Meet the Academic Needs of the Gifted and Talented*. Minneapolis: Free Spirit Publishing.

Wood, P. (2008) 'Reading Instruction with Gifted and Talented Readers: A Series of Unfortunate Events or a Sequence of Auspicious Results?.', *Gifted Child Today*. Available at: http://eric.ed.gov/?id=EJ803362 (Accessed: 18 March 2015).

Wood, S., Portman, T. A. A., Cigrand, D. L. and Colangelo, N. (2010) 'School Counselors' Perceptions and Experience with Acceleration as a Program Option for Gifted and Talented Students', *Gifted Child Quarterly*, 54(3), pp. 168–178.

Wright, B. L., Ford, D. Y. and Young, J. L. (2017) 'Ignorance or Indifference? Seeking Excellence and Equlity for Underrepresented Students of Color in Gifted Education', *Gifted Education International*, 4(1), pp. 45–61.

Wu, E. H. (2005) 'Factors That Contribute to Talented Performance: A Theoretical Model From a Chinese Perspective', *Gifted Child Quarterly*, 49(3), pp. 231–246.

Wu, J. (2016) 'Educational Discipline, Ritual Governing, and Chinese Exemplary Society: Why China's Curriculum Reform Remains a Difficult Task', *Policy Futures in Education*, 16(4), pp. 721–740.

Xia, Z. (2001) 'A Discussion of Stratification and Fostering of Reading Abilities in Language and Literature Learning of Primary and Secondary Students', *Curriculum, Textbook, Pedagogy*, 2, pp. 8–13.

Yan, C. (2015) '"We Can't Change Much unless the Exams Change": Teachers' Dilemmas in the Curriculum Reform in China Curriculum Reform in China', *Improving Schools*, 18(1), pp. 5–19.

Yang, G. and Wang, Y. (2009) 'Basic Theoretical Issues in Gifted Education （in Chinese)', *Chinese Journal of Special Education*, 9, pp. 65–69.

Yang, W. and Zhou, W. (2008) 'What Accounts for Chinese-American Children's High Academic Performance: A Literature Review Of Parental Influences and Home Environment', *Gifted Education International*, 24(1), pp. 88–104.

Zhang, Z. (2017) 'Gifted Education in China', *Cogent Education*, 4(1). Available at: https://doi.org/10.1080/2331186X.2017.1364881.

Zheng, J. (2010) 'The Impact of Chinese Traditional Culture on Modern Education', *Journal of Xiangyang Vocational Technical College*, 9(1), pp. 125–127.

Zhong, Q. (2006) 'Curriculum Reform in China: Challenges and Reflections', *Front. Educ. China*, 3, p. 370−382.

Ziegler, A. (2005) 'The Actiotope Model of Giftedness', in Sternberg, R. J. and Davidson, J. E. (eds) *Conceptions of Giftedness*. 2nd edn. New York: Cambridge University Press, pp. 411–436.

Ziegler, A. and Baker, J. (2013) 'Talent Development as Adaptation: the Role of Educational and Learning Capital', in Phillipson, S., Stoeger, H., and Ziegler, A. (eds) *Exceptionality in East Asia: Explorations in the Actiotope Model of Giftedness*. London: Routledge, pp. 18–39.

Ziegler, A., Chandler, K. L., Vialle, W. and Stoeger, H. (2017) 'Exogenous and Endogenous Learning Resources in the Actiotope Model of Giftedness and Its Significance for Gifted Education', *Journal for the Education of the Gifted*, 40(4), pp. 310–333.

Ziegler, A. and Phillipson, S. N. (2012) 'Towards a Systemic Theory of Gifted Education', *High Ability Studies*, 23(1), pp. 3–30.

Ziegler, A. and Stoeger, H. (2017) 'Systemic Gifted Education: A Theoretical Introduction', *Gifted Child Quarterly*, 61(3), pp. 183–193.

Appendices

University of Glasgow

College of Social Sciences

Appendix A: The Permission Email from Dr. Françoys Gagné

From: François Gagné <fysgagne@gmail.com>
Sent: 04 September 2018 15:04
To: Tingzhao Zhang
Subject: Re: The use of DMGT in my thesis
Attachments: DMGT HD BW.jpg

Dar Mr. Zhang,
Of course you can do it. I have attached a high quality very recent version of the DMGT figure which you can use by mentioning you got it directly from the author (refer to this email).
Best wishes in your future projects.
François G.

Le sam. 1 sept. 2018 à 18:44, Tingzhao Zhang <t.zhang.1@research.gla.ac.uk> a écrit :
Dear Professor François Gagné,

I am a PhD student in the University of Glasgow. My PhD thesis is about teaching gifted reader in China and Scotland. I really like your idea for talent development, thus I have discussed how to teach gifted readers under this model in my thesis.

Can I ask if I could put your DMGT 2.0 in my thesis? It is the one from "Gagné, F., 2010. Motivation within the DMGT 2.0 Framework. High Ability Studies, 21(2), pp.81-99." It will be fully referenced like this.

I'll submit my thesis this month and prepare for viva, and I'm supervised by Dr Margaret Sutherland. If you could permit me to put a picture of this model in my thesis, it would be so helpful for the reader to understand my writing.

Best Regards,
Ting

Tingzhao Zhang

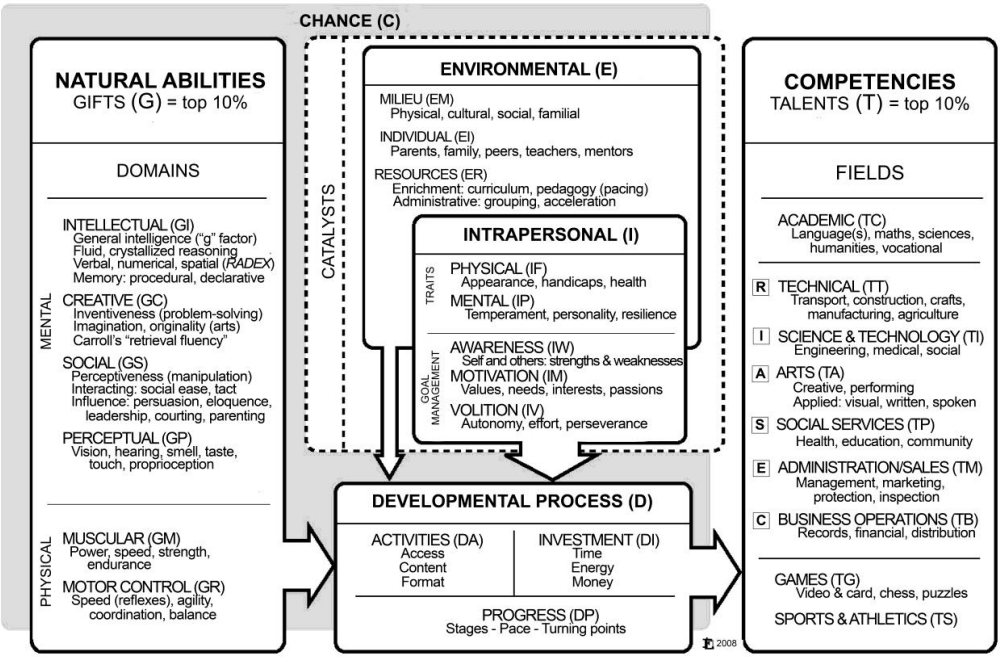
PhD Researcher in Gifted Education
School of Education
University of Glasgow

--

Dr. François Gagné, Ph.D.
Professeur de psychologie (retraité de l'UQAM)
Professor of psychology (retired from UQAM)

8340 rue Odile
Brossard QC J4Y 2W4
CANADA

Téléphone/phone-fax: 1-(450) 676-1377



Appendix B: Teachers' Survey for Highly Able Readers

Thank you very much for providing me an opportunity to understand your ideas for highly able readers. This questionnaire is part of my PhD research in the University of Glasgow. It is designed to explore how teachers teach highly able readers by using children's literature in China and Scotland. Your responses will be kept confidential and individual respondents and schools will not be identifiable in the reporting of my findings. This questionnaire may take you up to 30 minutes to complete.

1. Are you ☐Female ☐Male

2. What is your age? …….

3. How long have you been teaching? .....

4. What age group do you currently teach? ……

5. How many pupils are in your current class? ……

6. How many highly able readers do you think are in your current class? .....

7. What qualifications for teaching do you have?

☐Bachelor degree related to education

☐Bachelor degree <u>not related</u> to education

☐Master degree related to education

☐Master degree <u>not related</u> to education

☐Postgraduate Diploma in Education (PGDE)

☐Others (Please specify): ……..

8. Have you had any training or taken a course in teaching highly able students?

☐ Yes

☐ No

9. Have you had any training or taken a course in children's literature?

☐ Yes

☐ No

10. Have you had any training or taken a course that has specifically talked about teaching highly able students in relation to literature and literacy?

☐ Yes

☐ No

11. How do you feel about the training you have received in preparing you to understand and teach highly able readers?

☐Very adequate

☐Adequate

☐Inadequate

☐Very inadequate

☐Not sure

12. Does your school have a general policy for addressing the needs of highly able students across curricular areas?

☐ Yes ☐ No

☐ Not sure

13. Does your school have a policy for addressing the needs of learners who are highly able at language and literacy?

☐ Yes ☐ No

☐ Not sure

If yes, please provide details of the policy.

14. Can you please give your personal definition of a highly able reader?

15. Your understanding of highly able readers is very important for planning how to nurture them. Please tick your response to indicate the degree of agreement.

	Characteristics of highly able readers	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
1	Begin to read at an early age	☐	☐	☐	☐	☐
2	Self-taught	☐	☐	☐	☐	☐
3	Read above average level	☐	☐	☐	☐	☐
4	Use expansive vocabulary	☐	☐	☐	☐	☐
5	Learn and apply grammar quickly	☐	☐	☐	☐	☐
6	Have a large quantity of literary knowledge	☐	☐	☐	☐	☐
7	Process information and thoughts more quickly than peers	☐	☐	☐	☐	☐
8	Can relate prior experience to understand texts	☐	☐	☐	☐	☐
9	Able to use picture and context cues	☐	☐	☐	☐	☐
10	Understand and synthesize ideas in a comprehensive way	☐	☐	☐	☐	☐
11	Have the ability of inference	☐	☐	☐	☐	☐
12	Display a sense of humour by using language orally or in writing	☐	☐	☐	☐	☐
13	Display visual or multimodal reading ability	☐	☐	☐	☐	☐
		Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
14	Have high ability to understand screen texts (e.g. texts in ipad)	☐	☐	☐	☐	☐
15	Read with interest and curiosity	☐	☐	☐	☐	☐
16	Read with pleasure and enjoyment	☐	☐	☐	☐	☐

17	Can appreciate the beauty of texts	☐	☐	☐	☐	☐
18	Show deep empathy to protagonists in texts	☐	☐	☐	☐	☐
19	Able to explore a topic through researching texts	☐	☐	☐	☐	☐
20	Engage in critical thinking	☐	☐	☐	☐	☐
21	Have divergent interpretations of texts	☐	☐	☐	☐	☐
		Strongly agree	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
23	Confident	☐	☐	☐	☐	☐
24	Hardworking	☐	☐	☐	☐	☐
25	Have high emotional sensitivity	☐	☐	☐	☐	☐
26	Have longer attention span	☐	☐	☐	☐	☐
27	Be highly able at some other subjects (e.g. maths)	☐	☐	☐	☐	☐
28	Can decode but cannot comprehend well due to lack of emotional maturity	☐	☐	☐	☐	☐
29	Feel bored with the content of the standardised curriculum	☐	☐	☐	☐	☐
30	Behave inappropriately in the classroom	☐	☐	☐	☐	☐
31	Display inability to deal with failure	☐	☐	☐	☐	☐
32	Need differentiated reading instructions	☐	☐	☐	☐	☐
33	Born with a linguistic intelligence	☐	☐	☐	☐	☐
34	Come from a background rich in reading materials	☐	☐	☐	☐	☐

16. What are your teaching objectives for highly able readers?

☐The same as other readers

☐Different from other readers

If different, please explain your teaching objectives for highly able readers

17. How do you choose reading materials for highly able readers? (You can tick more than one.)

☐By considering language complexity

☐By considering themes in texts

☐By setting a reading environment and giving them freedom to choose

☐By considering suggestions from schools and government

☐I don't select reading materials particularly for highly able readers

If you do not select reading materials particularly for highly able readers, what is the reason for that?

☐I think our routine materials are enough for all reader.

☐There is no time to select particularly for highly able readers.

☐I don't know where to find extra resources.

☐Others

Please specify if you choose others:

18. How often do you use these forms of children's literature to teach highly able readers?

	Always	Often	Sometimes	Seldom	Never
Paper textbooks	☐	☐	☐	☐	☐
Paper Scheme book	☐	☐	☐	☐	☐
Paper trade books (Books we normally buy in book store)	☐	☐	☐	☐	☐
Electronic books	☐	☐	☐	☐	☐
Digital app books	☐	☐	☐	☐	☐

19. How often do you use each genre of children's literature to teach highly able readers?

Genre	Always	Often	Sometimes	Seldom	Never	Not sure
Picturebooks	☐	☐	☐	☐	☐	☐
Poetry	☐	☐	☐	☐	☐	☐
Nursey rhymes	☐	☐	☐	☐	☐	☐
Fables	☐	☐	☐	☐	☐	☐
Fantasy	☐	☐	☐	☐	☐	☐
Fairy tales	☐	☐	☐	☐	☐	☐
Legends and Myth	☐	☐	☐	☐	☐	☐
Drama	☐	☐	☐	☐	☐	☐
Biography and Autobiography	☐	☐	☐	☐	☐	☐
Historical fiction	☐	☐	☐	☐	☐	☐
Realistic fiction	☐	☐	☐	☐	☐	☐
Comics and Graphic novel	☐	☐	☐	☐	☐	☐

Others……..

20. In your opinion, do you have good quality children's literature in your classroom?

☐ Yes

☐ No

If yes, do you think you have an adequate supply or access to an adequate supply of good quality children's literature in your classroom?

☐Very adequate

☐Adequate

☐Inadequate

☐Very inadequate

☐Not sure

21. What is/was your teaching focus for highly able readers? Please rank according to the time spent by putting 1, 2, and 3 in the boxes. 1 stands for the focus on which you spent the most time and 3 stands for the focus on which you spent the least time.

Choose an item. Reading ability of exploration (e.g. Pleasure, aesthetics, creative thinking, critical thinking)

Choose an item. Reading ability of knowledge (e.g. basic language skills, literary knowledge)

Choose an item. Reading ability of understanding (e.g. interpretation, generalisation, inference)

☐I did not have a specific focus for gifted readers.

22. How often do you use technology (e.g. computer, ipad etc.) to facilitate the teaching of children's literature to highly able readers?

☐Always ☐Often ☐Sometimes ☐Seldom ☐Never

23. Which strategies have you used with your highly able readers? (Tick as many as you wish.)

☐Differentiation ☐Acceleration ☐Enrichment

☐Ability group ☐Pull-out program ☐Critical reading

☐Creative reading ☐Inquiry reading ☐None

Others (Please specify)……..

24. How often do highly able readers work together with other children (mixed group) in reading class?

☐Always ☐Often ☐Sometimes ☐Seldom ☐Never

Please explain your teaching preference to mixed group or homogeneous ability group.

25. How do you assess highly able readers' development? (Tick as many as you wish)

☐By standardised tests

☐By classroom observation

☐By feedback from parents

☐By talking with the pupil

☐By feedback from other pupils

Others…….

26. Do you agree that the literacy curriculum has flexibility to allow you to meet the needs of highly able readers?

☐Strongly agree

☐Agree

☐Disagree

☐Strongly disagree

☐Not sure

27. How well do you think the needs of highly able readers are met in your class?

☐Very well ☐Well ☐Adequately

☐Poorly ☐Very poorly

28. How comfortable do you feel in teaching reading to highly able readers?

☐Very comfortable

☐Moderately comfortable

☐Neither comfortable nor uncomfortable

☐Moderately uncomfortable

☐Very uncomfortable

29. What helps you to meet the needs of highly able readers?

30. What hinders you from meeting the needs of highly able readers?

Thank you very much for your time.

Later on I'll invite some teachers in China and Scotland to participate in an interview, which will give me a more in-depth picture of your teaching of highly able readers.

Would you like to participate in the interview?

☐ Yes ☐ No

If you would like to join, please complete the following:

Name of contact: …….

School name: ……...

Contact number: ……
Email: ……...

Appendix C: 对阅读能力超常学生的教学现状调查

(Teachers' Survey for Highly Able Readers)

亲爱的老师，

您好！我是英国格拉斯哥大学教育学院在读的一名博士生。非常感谢您利用宝贵的时间来完成这份调查问卷。此次调查意在探讨在中国和苏格兰的小学中，教师如何利用儿童文学来教授阅读能力超常的学生。问卷以匿名方式进行，学校与个人不会在我的博士论文中被识别。您可能会需要 30 分钟时间来完成问卷。

（阅读能力超常儿童，以下简称“超常读者”）

1. 您的性别是：　☐女士　☐先生

2. 您的年龄是……..

3. 您的教书时长是…….年

4. 您现在所教授的儿童是哪个年龄段？ …….

5. 您的班级现有多少学生？ ……

6. 您认为您现在的班上有多少位阅读能力超常的学生？ ……..

7. 您拥有什么学历？

☐教育学专科学历　☐非教育学专科学历

☐教育学本科学历　☐非教育学本科学历

☐教育学硕士学历　☐非教育学硕士学历

其它……

8. 您参加过有关超常教育的课程或培训吗？

☐参加过　☐没参加过

9.您参加过有关儿童文学的课程或培训吗？

☐参加过　　☐没参加过

10.您参加过有关超常教育特别是在语文方面的应用的课程或培训吗？

☐参加过　　☐没参加过

11. 您觉得您参加过的课程或培训足够支持您对超常儿童的教学吗？

☐非常足够　☐足够　☐缺乏　☐非常缺乏　☐不确定

12. 您的学校有没有基本的关于超常教育的政策？

☐有　☐没有　☐不确定

13. 您的学校有没有对在语文方面有超常能力的学生的政策？

☐有　☐没有　☐不确定

14. 请给出您对于阅读能力超常的儿童（以下简称“超常读者”）的定义。

15. 您对超常读者的理解对于您的教学非常重要。请勾选同意的程度。

	超常读者的特点	非常同意	同意	中立	反对	非常反对
1	很早就开始阅读	☐	☐	☐	☐	☐
2	自学阅读	☐	☐	☐	☐	☐
3	比同龄人阅读水平高	☐	☐	☐	☐	☐
4	使用丰富的词汇	☐	☐	☐	☐	☐
5	学习语法非常快	☐	☐	☐	☐	☐

6	拥有大量的文学知识储备	□	□	□	□	□
7	迅速地处理信息和思考	□	□	□	□	□
8	能联系以前的经历来理解文本	□	□	□	□	□
9	能利用图片和背景线索来理解文本	□	□	□	□	□
10	综合性地理解文本的主旨	□	□	□	□	□
11	拥有推理能力	□	□	□	□	□
12	在口语或写作中表现出一种幽默感	□	□	□	□	□
		非常同意	**同意**	**中立**	**反对**	**非常反对**
13	拥有视觉和多媒体阅读能力	□	□	□	□	□
14	拥有对电子书籍的超常阅读能力	□	□	□	□	□
15	对阅读充满兴趣和好奇心	□	□	□	□	□
16	阅读时带着愉悦而有乐趣的情感	□	□	□	□	□
17	能欣赏阅读的美	□	□	□	□	□
18	对文中人物充满同情	□	□	□	□	□
19	可以通过探索书籍来研究一个主题	□	□	□	□	□
20	会批判性思考	□	□	□	□	□
21	对文本进行发散性阐释	□	□	□	□	□
22	任务完成能力	□	□	□	□	□
23	非常自信	□	□	□	□	□
24	非常刻苦	□	□	□	□	□
		非常同意	**同意**	**中立**	**反对**	**非常反对**
25	情绪非常敏感	□	□	□	□	□
26	注意力持久	□	□	□	□	□
27	对其它科目也拥有超常能力（例：数学）	□	□	□	□	□
28	因为情感不成熟，可以认字但是不能理解文章	□	□	□	□	□

29	对标准化课程感到十分容易和无聊	☐	☐	☐	☐	☐
30	在课堂上有不适当的行为举止	☐	☐	☐	☐	☐
31	不能正确对待失败	☐	☐	☐	☐	☐
32	需要差异化阅读教学	☐	☐	☐	☐	☐
33	生下来就有语言天赋	☐	☐	☐	☐	☐
34	来自于一个阅读环境优越的家庭	☐	☐	☐	☐	☐

16. 您对超常读者设置的教学目标与其他学生一样吗？

☐与其他学生一样

☐与其他学生不一样

如果不一样，那您对超常读者设置的教学目标是什么？

17. 您是怎么为超常读者选择阅读材料的？（可多选）

☐通过考虑语言复杂性

☐通过考虑文本主题

☐通过创设阅读环境来给他们自由的选择空间

☐通过考虑教育部门和学校的建议

☐我不特别为超常读者选择阅读材料

如果您不特别为超常读者选择阅读材料，背后的原因是什么？

☐我认为平常的阅读材料对所有学生已经足够

☐没有时间特别选择阅读材料给超常读者

☐我不知道从哪儿找到这些材料

☐其它……

……..

18. 您经常使用以下的儿童文学媒介来进行对超常读者的教学吗？

	总是	经常	有时	偶尔	从不	不确定
纸质教科书	☐	☐	☐	☐	☐	☐
纸质分级阅读书	☐	☐	☐	☐	☐	☐
真正的儿童书籍（我们在书店能买到的、非用于教学的儿童书）	☐	☐	☐	☐	☐	☐
电子书（纸质书的电子版本）	☐	☐	☐	☐	☐	☐
软件书（平板电脑上的 APP 书，可以与读者互动）	☐	☐	☐	☐	☐	☐

19. 您经常使用以下的儿童文学体裁来进行对超常读者的教学吗？

体裁	总是	经常	有时	偶尔	从不	不确定
图画书（绘本）	☐	☐	☐	☐	☐	☐
诗	☐	☐	☐	☐	☐	☐
童谣	☐	☐	☐	☐	☐	☐
寓言	☐	☐	☐	☐	☐	☐

幻想小说	☐	☐	☐	☐	☐	☐
童话	☐	☐	☐	☐	☐	☐
神话传说	☐	☐	☐	☐	☐	☐
戏剧	☐	☐	☐	☐	☐	☐
自传或传记	☐	☐	☐	☐	☐	☐
历史小说	☐	☐	☐	☐	☐	☐
现实小说	☐	☐	☐	☐	☐	☐
漫画	☐	☐	☐	☐	☐	☐

其它……

20. 您认为您课堂上有高品质的儿童文学文本吗？

☐有　　☐没有

如果有，您认为学校对这些高品质的儿童文本的供应充足吗？

☐非常足够　☐足够　☐缺乏　☐非常缺乏　☐不确定

21. 您重点培养超常读者的哪些能力？请用数字“1”、“2”、“3”排序。“1”代表花费最多时间，“3”代表花费最少时间。

☐ 探索性阅读能力（例如：愉悦、审美、创造、批判）

☐ 知识性阅读能力（例如：语言技巧、文学知识）

☐ 理解性阅读能力（例如：理解、总结、推断）

☐ 我没有特别的培养重点

22. 您经常利用课堂信息技术（例：投影仪、电脑、Ipad 等）来方便使用儿童文学对超常读者的教学吗？

☐总是　☐经常　☐有时　☐偶尔　☐从不

23. 您使用过什么策略来进行对超常读者的教学？（可多选）

☐差异化教学　☐加速型教学　☐丰富型教学

☐能力分组　☐课外项目　☐评判性阅读

☐创造性阅读　☐探索性阅读　☐没有

其它……

24. 您经常将超常读者与其他学生分成一组（混合能力分组）教学吗？

☐总是　☐经常　☐有时　☐偶尔　☐从不

请解释您选择混合能力小组或单一能力小组教学的原因。

25. 您是怎样评估超常儿童的进步的？（可多选）

☐通过标准化考试　☐通过课堂观察　☐通过家长反映

☐通过同学反映　☐通过与超常读者本人交谈

其它……

26. 您同意语文课程大纲有助于您对超常读者的教学的说法吗？

☐非常同意　☐同意　☐反对　☐非常反对　☐不确定

27. 您认为您班上超常读者的学习需求得到满足了吗？

☐非常足够　☐足够　☐缺乏　☐非常缺乏　☐不确定

28. 您对超常读者的教学感到自信吗？

☐非常自信　☐自信　☐一般　☐不自信　☐非常不自信

29. 现行教育环境下什么有益于您对于超常读者的教学？

30. 现行教育环境下什么妨碍您对于超常读者的教学？

感谢您的参与！

接下来我会邀请您参加一小时访谈。通过访谈我能更加深刻全面地了解您对于阅读能力超常孩子的教学。您愿意参加访谈吗？

☐ 愿意　☐ 不愿意

如果您愿意参加，请填写您的联系方式：

您的姓名：……

学校名称：……

电话：……　邮箱：……..

Appendix D: Interview for Teacher

This research is looking at how we support highly able readers by using children's literature.

Theme 1: Conceptualisation of highly able readers

1. What abilities and knowledge level do they have?
2. Where do you think their abilities in reading come from?
3. What characteristics do you think that highly able readers have?
4. Are there any negative characteristics? If yes, what are they?
5. How does this affect your expectations of them?
6. What instructions do you think they need?
7. Do you find any students who have potential to read well but currently don't for a range of reasons? If yes, what are the reasons for not reading as well as they could?

Theme 2: Reading materials

1. In the classroom, what kind of reading materials do you use to teach students?
2. Do you use different materials to teach highly able readers? If yes, what are these materials? Why?
3. What kind of genres do you use in the classroom?
4. What themes do you explore with readers?
5. Do you use digital books to instruct in the classroom or outside the classroom? If yes, what kind of digital books do you use?
6. How do you instruct them for their reading out of classroom?
7. How do you motivate your highly able readers?
8. How do you choose appropriate reading materials to highly able readers?
9. How do you consider the language and content level in texts?

Theme 3: Teaching

1. After identifying your students' ability, how do you nurture their reading talent?
2. Do you use the whole class reading materials in different ways to teach highly able readers? If yes, why? If no, why?
3. Do you teach in different ways according to genres of literature? If yes, how?
4. Do you use technology to support highly able readers? If yes, how?
5. What abilities do you want to foster for highly able readers?
6. How do you assess them?
7. Do you think the assessments influence your teaching? If so, how?
8. How do you manage the reading environment to benefit highly able readers?
9. Could you improve your teaching of highly able readers? If so, how?
10. What help your teaching of highly able readers?
11. What hinder your teaching of highly able readers? Have you experienced some problem when support highly able readers?
12. What do you think is the most important aspect to teach highly able readers? Why?

Appendix E: Interview for Literacy Coordinator

(Head teacher, deputy head teacher, or principal teacher regarding literacy coordination)

This research is looking at how teachers support highly able readers by using children's literature.

1. How do teachers in your school teach highly able readers?
2. Are there enough children's books for teachers to use to nurture highly able readers? If yes, can you give me details about these books? If no, what are the reasons for that?
3. Do you think teachers use these resources effectively? If so, how do they do this? How do you think teachers have effectively used these resources?
4. How do teachers create a reading environment to benefit highly able readers?
5. How does Curriculum for Excellence support teachers in terms of highly able readers?
6. What are your views on teachers' assessments of highly able readers?
7. How do you justify teachers' teaching of highly able readers in your school?
8. How do you support teachers to nurture highly able readers?
9. Do you think they have received adequate training for teaching highly able readers? Can you explain further?

Appendix F: 访谈（教师）(Interview for Teachers)

主题一：对超常读者的概念

1. 你认为超常读者有什么样的能力和知识水平？
2. 他们是怎么获得这种超常的阅读能力的？
3. 他们有什么样的性格？
4. 他们有没有消极的性格？如果有，是什么？
5. 他们的这些表现和能力是怎么影响你对他们的期待的？
6. 你认为他们需要什么样的教学指导？
7. 你遇见过有很大的潜力但是现在阅读水平却不高的学生吗？如果有，你认为是什么原因造成的这种状况？

主题二：阅读材料

1. 在课堂上，你使用了哪些教学材料？
2. 你会使用不同的材料来教授超常读者吗？如果是，有哪些材料？
3. 你会教授一些什么文学体裁？
4. 你会教授一些什么主题？
5. 在课堂上或课堂外你会使用电子书来教学吗？如果会，你会使用哪一些电子书？
6. 你是怎么指导他们的课外阅读的？
7. 你是怎么激发他们的阅读兴趣的？
8. 你是怎么选择合适的阅读材料给超常读者的？
9. 你是怎么考虑阅读材料中的语言水平和内容的？

主题三：教学

1. 在鉴别出了学生的超常的阅读能力后，你是怎么培养他们的？
2. 你会使用同一种阅读材料给所有学生但是却用不同的方法来教授超常读者吗？可以解释一下这样做的原因吗？
3. 你会对不同的文学体裁使用不同的教学方法吗？如果会，你具体是怎么做的？
4. 你会使用信息技术来加强对超常读者的教学吗？如果会，你具体是怎么做的？
5. 你着重培养超常读者的什么能力？
6. 你是怎么评估他们的阅读能力的发展的？
7. 你觉得你的评价方法影响了你的教学吗？如果有，是怎么影响的？
8. 你是怎么创设一个有益于超常读者成长的阅读环境的？
9. 你认为你还可以改进你对超常读者的教学吗？如果可以，怎么改进？
10. 你认为什么有助于你对超常读者的教学？

11. 你认为什么妨碍了你对超常读者的教学？在教学过程中你遇到过什么问题吗？
12. 你认为在培养超常读者时，什么是最重要的一方面？为什么？

Appendix G: 访谈（教学组长）(Interview for Literacy Coordinators)

1. 在你的学校语文老师是怎么培养阅读能力超常的读者的？
2. 在你的学校有足够的儿童书籍给老师使用吗？如果有，可以谈谈这些书籍吗？如果没有，是什么原因呢？
3. 你认为老师充分使用了这些儿童书籍吗？如果是，他们是怎么做的？你是怎么看待老师们充分使用了这些书籍的？
4. 老师们是怎么创设一个有益于超常读者发展的阅读环境的？
5. 你认为语文课程教学大纲有益于超常读者的发展吗？为什么？
6. 你是怎么看待教师对超常读者的评价方法的？
7. 你是怎么看待你们学校教师对超常读者的教学的？
8. 你是怎么帮助和支持教师对超常读者的教学的？
9. 你认为教师在对超常读者的培养方面得到足够的培训和支持了吗？为什么？

Appendix H: An Excerpt of Interview with ST4

Researcher: What ability and knowledge level do you think they have?

ST4: Ok. My understanding of a highly able reader is somebody who is reading texts beyond their level and is able to comprehend, understand the text as well. So i would usually look at in terms of maybe a reading age or where you would expect them to be reading. So for instance, I would take as Primary 6. I would expect them to read a certain level and enough reading beyond that, and then I would consider them to be highly able.

Researcher: You mentioned the comprehension skill. Do you also find they have very good decoding skill?

ST4: Yes, like them, they are reading words beyond. Like for instance, I've worked for the down school and I think some children are working on basic skill. While in basic skill of reading, you've got some children that can pick up a novel and read it, and they can decode new words that they've not come into before. They can sound them out, use the picture clues, and they can use the surrounding words to work out the meaning of new vocabulary as well.

Researcher: Where do you find these kinds of abilities come from?

ST4: I don't know. I think sometimes children are maybe born with… what is maybe an element of… I think the big impact is probably before they start school. I don't think it's something happening once they are at school. I think it happens before that, because that time between birth and three years old is the biggest development opportunity for them. So I think if they are around texts, if they read stories in nursery rhyme, songs and all that, just like if their moms and dads are talking to them. I think all of that will help contribute to the reading ability as well.

Researcher: So you mean you think their parents influence them?

ST4: Yes.

Researcher: And you also mentioned they are born with this kind of ability?

ST4: Yes, I think sometimes they are born with a certain level of just when they learn to read they can read a thing. Sometimes children naturally pick things up fast than other children. So I think part of that could be down to genes just when you are born.

Researcher: What characteristics do you think highly able readers have?

ST4: I think they can pick up a text and read it. I think they can talk about what they've read and just what they understood it. Uh I don't know if they would always stand out until you get to know the children and you see them reading a piece of text, but I think they would be fluent readers. But I don't necessarily know that they would enjoy reading. I think that's an assumption that we make. But I'm not sure if they necessarily do enjoy reading, because there is also the risk that if they are highly able and the reading texts are too easy for them, they might be disengaged and not enjoy it.

Appendix I: An Excerpt of Interview with CT1

研究者：他们这种能力真的挺让人惊讶的，您觉得他们是怎么获得这种能力的呢？

CT1：我觉得这跟大量阅读是很有关系的。但我感觉这样的孩子他可能在性格方面会存在某一种缺失或者说他会比较孤独一点啊，因为他可能在同龄人当中找不到可以聊天的人，就可能大家的水平都不一样，然后他会偏向于有时候会追着我去问一下问题。这是怎么获得，可能父母的一些引导也有关系，家庭环境也有很多关系。但是我还是相信有些东西是天生的，因为就现在科技已经证明了很多是基因存在了很多决定性的东西，对吧？虽然后天也有很大的作用，但不能够否定某些孩子的确天生就是比较、对某些东西就比较敏感一点。

研究者：您认为哪个占的比例会比较大一点，家庭环境或者是天生？

CT1：呃，我觉得、就、虽然我认识不是很深，但是我个人感觉吧，还是觉得天生的比例会比较大一点。因为我觉得、就即便是同样一个孩子，你同样的家庭环境去培养，有可能得到是不一样的一个结果出来这样子。而且有的孩子他可能父母的基因比较优秀，两者可能更优质一点，也有这样子的可能。

研究者：那如果他们有这样子的一些能力，您会对他们有一些怎样的教学上的预期呢？

CT1：这个是我觉得我还做的不够的地方。就是说当然我希望他能够就其它方面也不要放下，就能够跟其他同学，能够达到一个我们正常学校、正常平时考试测验的一个水平。但是呢，它应该这种东西呢是满足不了他的。比如说他平时课堂上可能是吃不饱的这种孩子，而且他肯定是老师一边说他脑子一边转，他一定存在大量的问题会想要提出来的。一旦他的问题不能得到满足的话，他肯定会出现很多走神、或者说没兴趣这种现象。所以说你给他预期，其实我没有很明确的一个目标。因为我对这方面还是了解不多，所以就导致好像有点不作为的感觉。只是对于我个人来说，只是尽可能去、比方说下课的时候，尽可能去满足他的一些好奇的疑问啊，或者说是尽可能的让他去保持一份好奇心啊、去探索这样子。因为怎么说呢，我觉得我们老师你用什么样的标准去给他一个学习目标呢，这很难说，因为如果仅仅用他们同年人的教学、学习上的同样的水平目标给他，这无疑是限定了他的一个水平。但如果另外寻找其它途径呢，我又没有达到那种高度，或者说我还没想到一个更好的定位给他们。所以有点不作为的感觉在里面。

Appendix J: Application Approved

Ethics Committee for Non-Clinical Research Involving Human Subjects

Staff Research Ethics Application ☐ Postgraduate Student Research Ethics Application ☒

Application Details

Application Number: 400160006

Applicant's Name: Tingzhao Zhang

Project Title: Using children's literature to teach gifted and talented readers in the primary school: a comparative study of China and Scotland

Application Status: Approved

Start Date of Approval: 14/09/2016

End Date of Approval of Research Project: 30/06/2018

Please retain this notification for future reference. If you have any enquiries please email socsci-ethics@glasgow.ac.uk.

University of Glasgow

College of Social Sciences

Appendix K: Participant Information Sheet

Using children's literature to teach highly able and talented readers in the primary school: a comparative study of China and Scotland

BY Researcher:

Tingzhao Zhang, PhD in Education, School of Education, University of Glasgow

Rm 683, St Andrew's Building, 11 Eldon Street, Glasgow, U.K., G3 6NH

E-mail: t.zhang.1@research.gla.ac.uk

You are invited to take part in a research study. Before you decide I'd like to let you know a little bit about the research and what it will involve. Please ask me if there is anything that is not clear or if you would like more information. Thank you for reading this.

What is the purpose of the study?

The purpose of this study is to explore how primary teachers use children's literature to teach highly able and talented readers in China and Scotland. This study will help us to understand how to meet highly able readers' instructional needs by comparing, understanding, and learning from teaching experiences in different cultural and educational settings in China and Scotland.

Children who have high ability in reading have been identified within the field of gifted education by both teachers and parents. In the process of supporting them to become lifelong readers, it is recognised that teachers play a very important role. This study will contribute to the education of highly able readers by focusing on the teaching and learning processes and by examining the gap that can exist between theory and practice.

Do I have to take part?

Although I would really appreciate your support and participation, it is up to you whether to take part or not. You are also free to withdraw from this study at any time and you do not need to provide a reason. Any data you have already provided will be destroyed following your decision of withdrawal.

What will happen to me if I take part?

You will participate in one or both of the following activities:

1. Filling in a questionnaire related to your teaching experience of highly able readers. It may take up to 30 minutes.

2. Being interviewed by me about your teaching experience of highly able readers. It may take up to 1 hour. The interview will be audio recorded.

Will I get some benefits from this study?

No actual payment will be provided but I will really appreciate your participation and by participating you will contribute to the knowledge of this educational area.

Are there any risks if I take part?

The risks are minimal as the study will take place in your schools and there are no sensitive issues in this study.

What will happen to the results of the research study?

The results of the research study will be produced in the forms of a PhD thesis, journal articles, and possibly an academic book. They will also be presented to educational academics and practitioners at national and international conferences/seminars. The expected dates for these activities are from 2016 onwards. All the data will be stored in the University of Glasgow before my graduation from the PhD program and after that personal data will be destroyed within six months and research data will be kept in the University where I work for future publications till 2023. In 2023, research data will be destroyed. I value your participation very much and hope to make full use of the data you provide.

Will my taking part in this study be kept confidential?

Yes, no one other than the researcher, my supervisors and examiners is able to access the name or other identifiable personal information provided by you. Your name will be referred to by a pseudonym in any publications arising from the research. Confidentiality will be respected subject to legal constraints and professional guidelines.

Who has reviewed the study?

This study has been considered and approved by the College Research Ethics Committee and by my supervisors at the University of Glasgow.

Supervisors:

Dr. Margaret Sutherland, School of Education, University of Glasgow. Email: Margaret.Sutherland@glasgow.ac.uk

Dr. Beth Dickson, School of Education, University of Glasgow. Email: Beth.Dickson@glasgow.ac.uk

For further information and to make a complaint regarding the conduct of the research, please contact the College of Social Sciences Ethics Officer, Dr Muir Houston, email: Muir.Houston@glasgow.ac.uk

University of Glasgow

College of Social Sciences

Appendix L: 研究参与须知 (Participant Information Sheet)

使用儿童文学来教授阅读能力超常的学生：基于中国和苏格兰小学的对比研究

研究者：张婷曌，博士研究生，格拉斯哥大学教育学院

地址： Rm 683, St Andrew's Building, 11 Eldon Street, Glasgow, U.K., G3 6NH

邮箱：t.zhang.1@research.gla.ac.uk

诚邀您参加我的博士研究！在您做决定之前，我想先让您多多了解一下我的研究。如果您有任何疑问，欢迎您来询问我。谢谢您的阅读！

此研究的目的是什么？

研究的目的是探索在中国和苏格兰小学教师是如果使用儿童文学来教授阅读能力超常的学生的。这份研究会让我们更加了解在不同文化、国家中，教育者怎样更好的来培养超常儿童的阅读能力。

教育者、研究者和家长常常会发现有些儿童拥有超常的阅读能力。在超常读者的阅读能力的发展过程中，教师起到了重要的作用。这份研究会对超常教育和超常语文教育做出贡献。

我必须得参加吗？

您完全可以自己做决定。如果您同意参加，您可以在参与过程中随时退出，并且我会立即删除您提供的任何信息。

如果我参加，我需要做些什么？

您可以选择参加问卷或是访谈：

1. 填写关于您教授超常读者的经历的调查问卷。可能会花费您半小时时间。
2. 我会给您做面对面访谈。访谈过程会被录音。访谈可能需要一个小时时间。

我会因为参加获益吗？

没有现金回报，但是我会非常感谢您对我的帮助和您对教育研究的贡献。

我的参加有风险吗？

因为研究会在您的学校进行，而且没有任何敏感的问题，因此风险会非常小。

最后会怎么处理研究成果和数据？

研究结果最后会以博士论文、期刊论文或者学术书形式出现。研究结果最后也会在有关国际会议中发布。研究成果将会从 2016 年开始发表。在我博士毕业以前，所有研究数据都会储存在格拉斯哥大学。在我博士毕业以后，个人数据将会被销毁，而研究数据将会为了之后的论文发表而储存在我的工作单位中。所有的研究数据将会在 2023 年被销毁。我非常珍惜您的参与和为此付出的时间和精力，因此我会充分利用这些数据为人类知识做出贡献。

我的参加会被保密吗？

会。除了我、我的导师和评分老师可以查看我的原始数据，其他人都不可以。在任何发表的文章中，参加者都会以匿名形式出现。保密过程将会根据法律和行业指导来进行。

谁审查过了此研究？

格拉斯哥大学社会科学院伦理道德审查委员会和我的两位导师审查了此研究。

指导教师：

Dr Margaret Sutherland, 格拉斯哥大学教育学院, 邮箱：Margaret.Sutherland@glasgow.ac.uk

Dr Beth Dickson，格拉斯哥大学教育学院，邮箱：Beth.Dickson@glasgow.ac.uk

更多信息或者投诉此研究请联系：格拉斯哥大学伦理委员会委员长：*Dr Muir Houston, email: Muir.Houston@glasgow.ac.uk*

Appendix M: Consent Form (Questionnaire)

Title of Project: Using children's literature to teach gifted and talented readers in the primary school: a comparative study of China and Scotland

Name of Researcher: Zhang Tingzhao

Name of supervisor: Dr. Margaret Sutherland and Dr. Beth Dickson

I confirm that I have read and understood the Participant Information Sheet for the above study and have had the opportunity to ask questions.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

I acknowledge that participants will be referred to by pseudonym.

I acknowledge that all names and other material likely to identify individuals will be anonymised.

Please tick one of the boxes below

☐ I agree to take part in the above study.

☐ I do not agree to take part in the above study.

Name of Participant……

Signature ……

Date ……

University of Glasgow

College of Social Sciences

Appendix N: Consent Form (Interview)

Title of Project: Using children's literature to teach gifted and talented readers in the primary school: a comparative study of China and Scotland

Name of Researcher: Zhang Tingzhao

Name of supervisor: Dr. Margaret Sutherland and Dr. Beth Dickson

I confirm that I have read and understood the Participant Information Sheet for the above study and have had the opportunity to ask questions.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

I consent to interviews being audio-recorded.

I acknowledge that participants will be referred to by pseudonym.

I acknowledge that all names and other material likely to identify individuals will be anonymised.

Please tick one of the boxes below

☐ I agree to take part in the above study.

☐ I do not agree to take part in the above study.

Name of Participant……

Signature ……

Date ……

University of Glasgow

College of Social Sciences

Appendix O: 同意书 (Consent Form for Questionnaire)

博士项目名称：使用儿童文学来教授阅读能力超常的学生：基于中国和苏格兰小学的对比研究

研究者：张婷曌（博士研究生） 指导教师：Dr Margaret Sutherland 和 Dr Beth Dickson

1. 我已阅读并理解《研究参与须知》，并有机会提问。
2. 我了解我的参与是自愿的，我在任何时候都有权退出，无须给予任何理由。
3. 我了解参与者都会以匿名形式出现。
4. 我了解所有有可能导致参与者被识别的名字和材料都会以假名形式出现。

请在下方勾选来表明你的参与意愿：

☐我愿意参加上述研究

☐我不愿意参加上述研究

参与者姓名……..

签名…….

日期……

Appendix P: 同意书 (Consent Form for Interview)

博士项目名称：使用儿童文学来教授阅读能力超常的学生：基于中国和苏格兰小学的对比研究

研究者：张婷曌（博士研究生） 指导教师：Dr Margaret Sutherland 和 Dr Beth Dickson

- 我已阅读并理解《研究参与须知》，并有机会提问。
- 我的参与是自愿的，我在任何时候都有权退出，无须给予任何理由。
- 我同意录音。
- 我了解参与者都会以匿名形式出现。
- 我了解所有有可能导致参与者被识别的名字和材料都会以匿名形式出现。

请在下方勾选来表明你的参与意愿：

☐我愿意参加上述研究

☐我不愿意参加上述研究

参与者姓名……

签名……

日期……